CalComp Model 1039 Drum Plotter Engineering Drawings

technical manual

Part No. 10219-901-009-1

MODEL 1039 DRUM PLOTTER

ENGINEERING DRAWINGS

April 1978

CALCOMP
California Computer Products, Inc.
2411 W. La Palma, Anaheim, CA 92801

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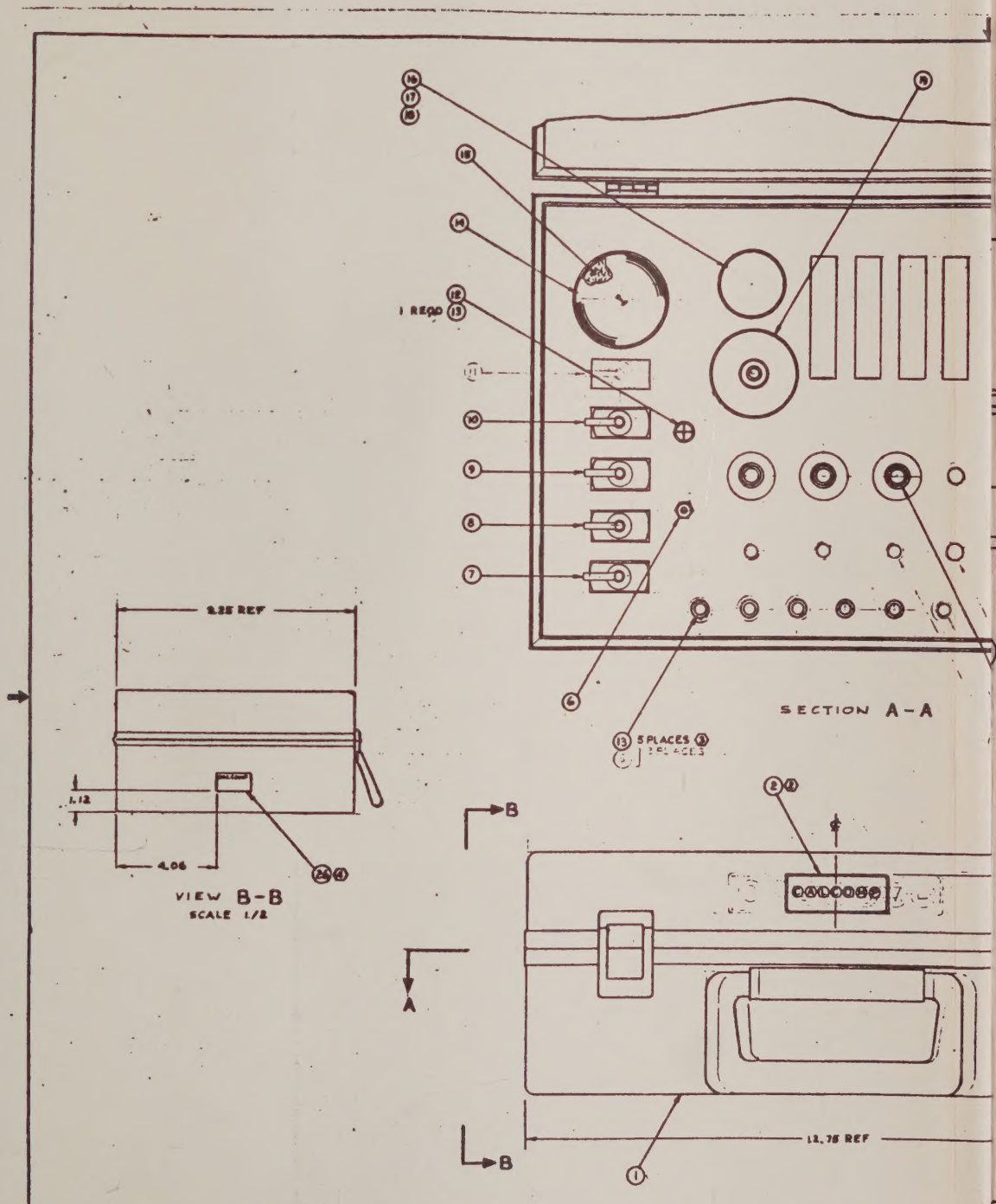
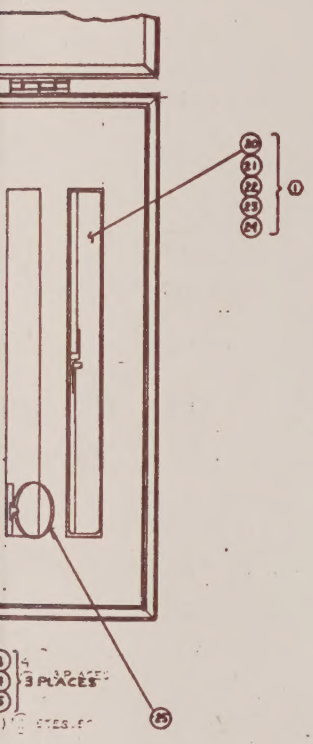
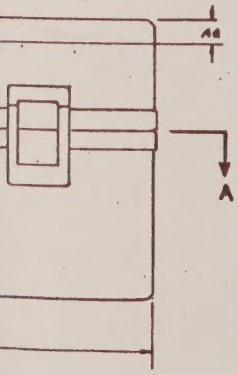

1 REQD
SECTION A-A
5 PLACES
3.25 REF
1.12
4.06
VIEW B-B
SCALE 1/2
B
A
B
13.75 REF

ZONE	LTR	DESCRIPTION	DATE & APPROVAL
		REVISED PER ECR 3264	
	0	PROD. RELEASE, PAN WMS A20181-101-000 REV. A	RAM 6-8-93
	1	1. IN LIM 20123-002-003 WMS ZONE 3-802-000 EFFECTIVITY: F 3-M-77	ECR 3264 8-15-77





ITEM NO.	QTY	PART OR IDENTIFYING NO.	NOMENCLATURE OR DESCRIPTION	MATERIAL SIZE, DESCRIPTION & SPECIFICATION	ZONE
006480-3	26	1	10033-304-000	NAME PLATE	
377940-6	25	1	30141-802-000	KNIFE	
352710-8	24	1	25012-212-017	TIP-LIQUID INK	#8 GRAY
352700-9	23	1	25012-212-015	TIP-LIQUID INK	#6 WHITE
352680-2	22	1	25012-212-013	TIP-LIQUID INK	#5 YELLOW
352623-3	21	1	25012-212-011	TIP-LIQUID INK	#4 GREEN
352670-4	20	1	25012-212-009	TIP-LIQUID INK	#3 BLUE
366010-7	19	1	11389-211-000	ASSY-SYRINGE	PEN CLEANER
075510-8	18	10	PIPE CLEANERS	PIPE CLEANERS	
175140-3	17	30	Q-TIPS	Q-TIPS	
123440-0	16	1	30003-212-001	VIAL	
395493-1	15	1	10126-210-000	BASKET-CLEANER	
017740-2	14	1	50302-212-000	JAR, PEN CLEANER	
267950-4	13	6	30002-212-007	VIAL	
407738-1	12	1	13914-204-000	RETICLE - 836	
065930-6	10	1	10004-212-004	INK DRAWING	GREEN
065960-7	9	1	10004-212-003	INK DRAWING	RED
065950-8	8	1	10004-212-002	INK DRAWING	BLUE
065940-9	7	1	10004-212-001	INK DRAWING	BLACK
379240-8	6	1	20123-802-003	WRENCH CONTENTROITY	
006610-2	5	3	10030-204-000	RETAINER CARTRIDGE	
407560-5	4	3	13892-204-000	PEN HOLDER, L INK	
023090-4	3	3	11436-204-000	CARTRIDGE INK "88"	
343190-5	2	1	10068-204-500	LOGO CALCOMP	
366080-6	1	1	20061-101-000	CASE-PEN KIT	
406640-0	ITEM NO.	1	20181-101-000	PEN KIT	

LIST OF MATERIAL OR PARTS LIST

1C NO

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
TOLERANCES ON
DECIMALS .XX ± .03 .XXX ± .010
ANGLES ± 0° 30'
DRILLED HOLES

DRAWN Brawley 1-7-75
CHECK [illegible] 1-8-75
APPD [illegible] 1-9-75
APPD [illegible] 1-10-75
FINISH
HEAT TREAT
SURFACE ROUGHNESS PER MIL-STD-10 ✓

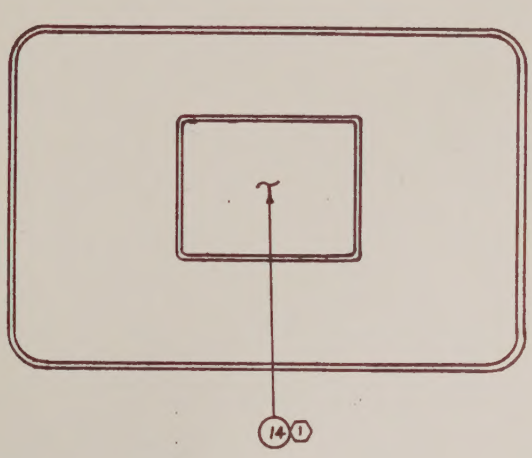
CALIFORNIA COMPUTER PRODUCTS INC.
2411 WEST LA PALMA, ANAHEIM, CALIFORNIA

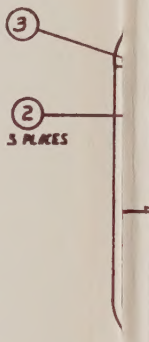
PEN KIT - LIQUID INK 836

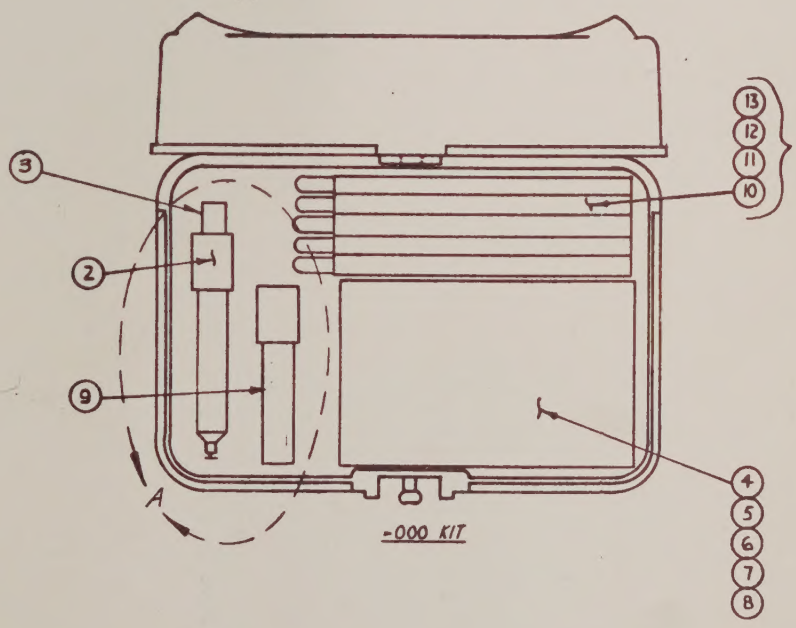
SCALE: FULL & NOTED
SIZE: F
20181-101-000
WEIGHT
SHEET

4. TYPEWRITER IMPRESSION STAMP PER CCP SPEC A0104-001 PART NO. 20181-101-000
3. REMOVE AND DISCARD CAPS FROM VIALS IN THESE LOCATIONS
2. ACTIVATE ADHESIVE WITH TRICHLORETHANE SOLVENT
1. CASE SUPPLIED BY KOH-I-NOOR INC. BLOOMSBURY, N.J.
NOTE: UNLESS OTHERWISE SPECIFIED

20181-101-000 1





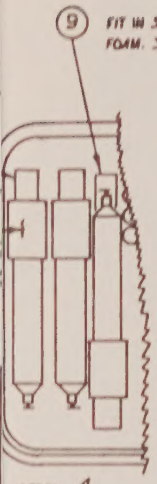


-000 KIT

① L TYPEWRITER IMPRESSION STAKE
P/N 20212-101-YXX - (REV)
NOTE: UNLESS OTHERWISE SPEC

15799	REVISIONS		
REV	ZONE	DESCRIPTION	DATE & APPROVAL
0		PRODUCTION RELEASE	

L.S.



DETAIL A
-100 KIT

DASH NO.	LC. NO.
-000	444570-6
-100	444580-5

0066 90-3	14		1	1	10033-204-000	NAMEPLATE	
424750-8	13		1	1	25024-212-021	NYLON TIP RED	
424740-9	12		1	1	25024-212-011	NYLON TIP GREEN	
424760-7	11		1	1	25024-212-031	NYLON TIP BLUE	
424770-6	10		3	3	25024-212-041	NYLON TIP BLACK	
424736-0	9		3	1	74097-204-000	HOLDER	
237610-1	8		1	1	20004-212-004	BALL POINT	
237600-2	7		1	1	20004-212-003	BALL POINT	
237590-5	6		1	1	20004-212-002	BALL POINT	
237580-6	5		3	3	20004-212-001	BALL POINT	
268690-5	4		1	1	20043-201-031	CASE	
403780-0	3		3	1	13891-204-000	CAP	
403770-1	2		3	1	13891-204-000	HOLDER	
444590-4	1		1	1	20080-201-000	CASE	
SEE TAB	ITEM		-100	-000	20212-101-XXX	PEN KIT	
I C NO.	NO.		REQD	REQD	PART OR IDENTIFYING NO.	NOMENCLATURE OR DESCRIPTION	MATERIAL SIZE, DESCRIPTION & SPECIFICATION ZONE

LIST OF MATERIAL OR PARTS LIST

DIMENSIONS ARE IN INCHES TOLERANCES ON		DRAWN JESSE	9.25.77
DECIMALS	ANGLES	CHECK	9.27.77
.XX ± .03	± 0° 30'	APPD	
.XXX ± .010		APPD	
UNLESS OTHERWISE SPECIFIED		APPD	
MODEL NO.	10 88	FINISH	
NEXT ASSY		HEAT TREAT	
FIRST USAGE			

CALIFORNIA COMPUTER PRODUCTS INC.
☐ 1270 NORTH KRAEMER BLVD, ANAHEIM, CALIFORNIA 92806
☒ 2411 WEST LA PALMA, ANAHEIM, CALIFORNIA 92801

PEN KIT-
NYLON TIP PEN

SCALE:	SIZE	
FULL	D	20212-101-XXX
		SHEET

SING .10 HIGH BLACK CHARACTERS.

TAB BLOCK		
I.C. NO.	DASH NO.	WHERE USED
446950-8	-011	1037/38 DOMESTIC
446960-7	-021	1037/38 EXPORT
446970-6	-031	1039 DOMESTIC
446980-5	-041	1039 EXPORT

	I.C. NO.	-041 REQD	-031 REQD	-021 REQD	-011 REQD	PART NUMBER	DESCRIPTION
	445100-1	3		3		40108-304-020	FUSE 2 AMP TIME LAG.
	017810-3	4	4	4	4	40101-304-024	FUSE 5 AMP 3AG
	017800-4		3		3	40101-304-022	FUSE 3 AMP 3AG
	444580-5	1	1			20212-101-100	PEN KIT (3 PEN)
	444570-6			1	1	20212-101-000	PEN KIT (1 PEN)
②		1	1	1	1	FORM 25-045	RETURN MAILER
	412420-2	1	1	1	1	10118-901-003	PEN & PAPER USERS GUIDE
	407300-3	1		1		20544-401-000	LINE CORD - EXPORT
	397130-6		1		1	20528-401-000	LINE CORD - DOMESTIC
	063250-5	1	1	1	1	10021-404-000	CABLE, CONNECTOR
	117550-4	1	1	1	1	10696-204-000	CORE
	117560-3	2	2	2	2	10248-205-501	CHART PAPER
		2	2	2	2		OPERATION MANUAL
①		2	2	2	2		MAINTENANCE MANUAL

② 2. REQD FOR D.E.M. ORDERS ONLY.

① 1. REQD FOR G.S.A. ORDERS ONLY.

NOTES: UNLESS OTHERWISE SPECIFIED.

SEE TAB I.C NO.	REQD	PART OR IDENTIFYING NO.	NOMENCLATURE OR DESCRIPTION	MATERIAL SIZE, DESCRIPTION & SPECIFICATION	ZONE
	1	20214-101-	LOOSE EQUIP		

LIST OF MATERIAL OR PARTS LIST

DIMENSIONS ARE IN INCHES
TOLERANCES ON
DECIMALS .XX ± .03 .XXX ± .010
ANGLES ± 0° 30'
UNLESS OTHERWISE SPECIFIED

DRAWN 9/7/77
CHECK
APPD
APPD
APPD

MODEL NO. 103X
NEXT ASSY
FIRST USAGE

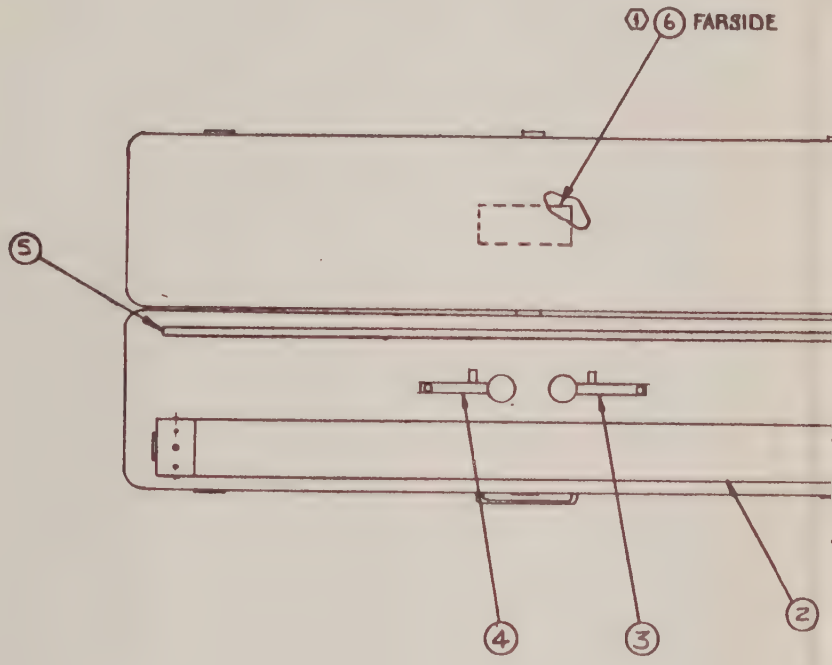
FINISH
HEAT TREAT

CALIFORNIA COMPUTER PRODUCTS INC.
□ 1270 NORTH KRAEMER BLVD, ANAHEIM, CALIFORNIA 92806
■ 2411 WEST LA PALMA, ANAHEIM, CALIFORNIA 92801

LOOSE EQUIP. —
1037-1038-1039

SCALE: NONE
SIZE C
20214-101-
SHEET

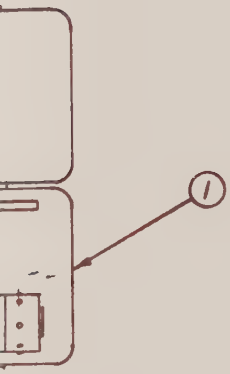
20214-101-
0



① 1. TYPEWRITE IMPRESSION STAMP USING .10 HIGH
CHARACTERS PER CCP SPEC. A0104-000 TH
FOLLOWING: PART NO. & REV.

NOTES: UNLESS OTHERWISE SPECIFIED.

REVISIONS			
REV	ZONE	DESCRIPTION	DATE & APPROVAL
0		INITIAL PROD RELEASE	



ITEM NO	REQD	PART OR IDENTIFYING NO.	NOMENCLATURE OR DESCRIPTION	MATERIAL SIZE, DESCRIPTION & SPECIFICATION	ZONE
175040-5	6	1	11254-204-000	PLATE, I.D.	
449850-7	5	1	21783-203-000	BAR-CUTTER	
449950-5	4	1	11728-211-002	IDLER ARM ASS'Y.	
449940-6	3	1	11728-211-001	IDLER ARM ASS'Y	
449970-3	2	1	14394-204-000	DRUM ASS'Y	
446560-5	1	1	20082-201-000	CASE	
449840-8	ITEM NO	REQD	20221-101-000	ACCESSORY KIT	PLOT DISPLAY
I.C. NO					

LIST OF MATERIAL OR PARTS LIST

DIMENSIONS ARE IN INCHES
TOLERANCES ON
DECIMALS XX ± .03, XXX ± .010
ANGLES ± 0° 30'
UNLESS OTHERWISE SPECIFIED

MODEL NO. 1037 1039

NEXT ASSY

FIRST USAGE

DRAWN	L. WHITE	11/10/77
CHECK		
APPD		11-14-77
APPD		
APPD		

FINISH

HEAT TREAT

CALIFORNIA COMPUTER PRODUCTS INC.
☐ 1270 NORTH KRAEMER BLVD, ANAHEIM, CALIFORNIA 92806
☐ 2411 WEST LA PALMA, ANAHEIM, CALIFORNIA 92801

ACCESSORY KIT — PLOT DISPLAY

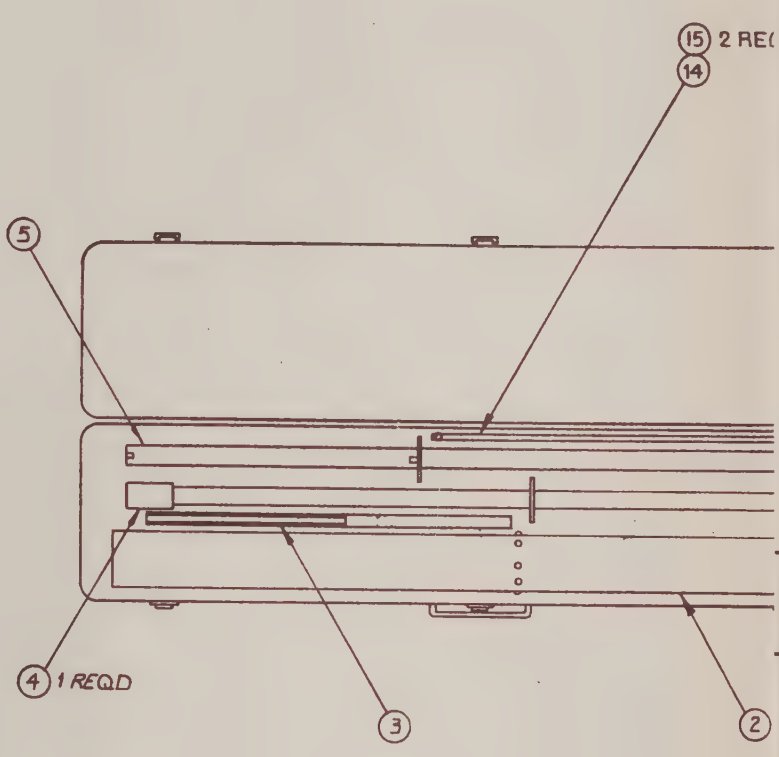
SCALE: NONE

SIZE: D

20221-101-000

SHEET

20221-101-000 D



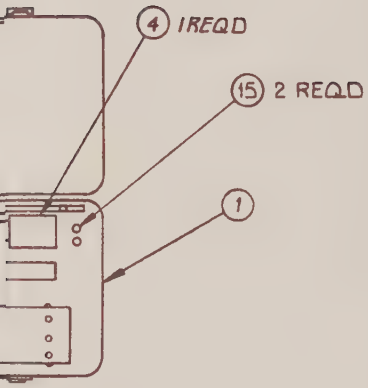
(3) 3. MAKE FROM 60028-206-249 (TC. 278270-9) &
47024-206-003 (TC. 403460-9)
(1) 2. SHIP AS LOOSE EQUIPMENT.

1. TAG WITH PART NUMBER AND REVISI
NUMBER PER CCP SPEC A0104-001

NOTES: UNLESS OTHERWISE SPECIFIED.

REVISIONS			
REV	ZONE	DESCRIPTION	DATE & APPROVAL
0			
1		1. IN L/M & I/I DELETED 11472-204-000 & 14035-204-003 EFFECTIVITY: F 1-9-78	ECR 5621 1-5-78

15863 16269



ITEM NO.	REQD	PART OR IDENTIFYING NO.	NOMENCLATURE OR DESCRIPTION	MATERIAL SIZE, DESCRIPTION & SPECIFICATION	ZONE
3 412000-2	15	4	11678-211-023	SCREW-THUMB	6-32 X 1/2 LG
441980-0	14	1	14356-204-000	CAM-SHORT PAPER	
	13				
	12				
	11				
	10				
	9				
1 366850-6	8	1	10462-205-101	GOO TRANS	
	7				
	6				
288580-4	5	1	11235-204-001	CORE-PAPER	
367900-8	4	2	13296-204-000	MANDREL	
424390-3	3	1	14270-201-000	BAFFLE	
441490-0	2	1	11572-211-500	DRUM ASSY	
446560-5	1	1	[illegible]	CASE	
447000-1	ITEM NO.	1	21218-101-000	ACCESSORY KIT	
LC NO.					

LIST OF MATERIAL OR PARTS LIST

DIMENSIONS ARE IN INCHES
TOLERANCES ON
DECIMALS .XX ± .03 .XXX ± .010
ANGLES ± 0° 30'
UNLESS OTHERWISE SPECIFIED

MODEL NO. 1037 1039

NEXT ASSY

FIRST USAGE

DRAWN 3/14/77
CHECK
APPD
APPD
APPD
FINISH
HEAT TREAT

CALIFORNIA COMPUTER PRODUCTS INC.
1270 NORTH KRAEMER BLVD, ANAHEIM, CALIFORNIA 92806
2411 WEST LA PALMA, ANAHEIM, CALIFORNIA 92801

ACCESSORY KIT — SHORT PAPER 1037-1039

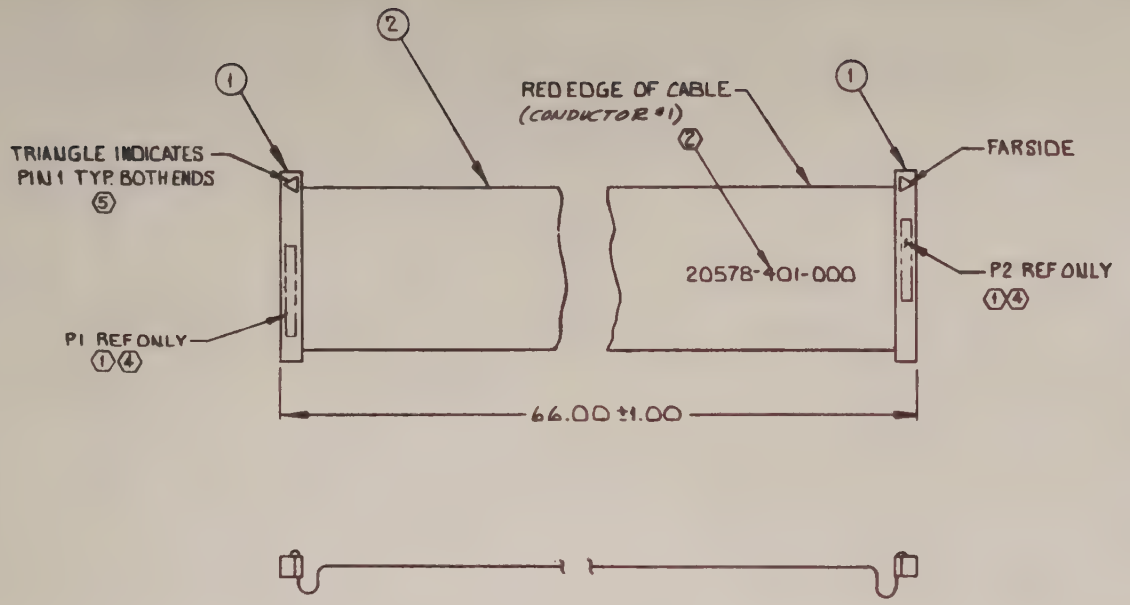
SCALE: NONE

SIZE D

21218-101-000

SHEET

21218-101-000



6. INSTALL CONNECTORS USING 3M TOOLING PLATEN NO 3442-1, LOCATOR PLATE NO 3443-9

5. 5. WIRE POINT TO POINT

4. 4. MARK AT ASSY FUCTIONAL TEST PER CABLE ROUTING DIAGRAM 20334-503-000.

3. NOTE ROUTING OF CABLE THRU EACH STRAIN RELIEF

2. 2. RUBBER STAMP PART NO & REV NO. USING .12 HIGH WHITE CHARACTERS PER CCP SPEC A0104-001.

1. 1. APPLY DESIGNATIONS AS SHOWN BY BEST PRACTICAL METHOD.

NOTES: UNLESS OTHERWISE SPECIFIED.

ITEM NO	REQD	PART OR IDENTIFYING NO.	NOMENCLATURE OR DESCRIPTION	MATERIAL SIZE, DESCRIPTION & SPECIFICATION	ZONE
413830-1	2	30408-405-008	CABLE, FLAT	28 AWG	20 COND.
438230-5	1	30049-404-003	SOCKET, CONN.		
445860-0	1	20578-401-000	CABLE ASSY		
IC NO					

LIST OF MATERIAL OR PARTS LIST

DIMENSIONS ARE IN INCHES
TOLERANCES ON
DECIMALS .XX ± .03 .XXX ± .010
ANGLES ± 0° 30'
UNLESS OTHERWISE SPECIFIED

MODEL NO.

NEXT ASSY

FIRST USAGE

DRAWN 7/5/77
CHECK
APPD
APPD
APPD

FINISH

HEAT TREAT

CALIFORNIA COMPUTER PRODUCTS INC.
1270 NORTH KRAEMER BLVD, ANAHEIM, CALIFORNIA 92805
2411 WEST LA PALMA, ANAHEIM, CALIFORNIA 92801

CABLE ASSY – SCALE FACTOR

SCALE:

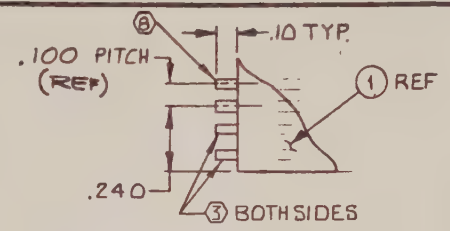
SIZE C

20578-401-000

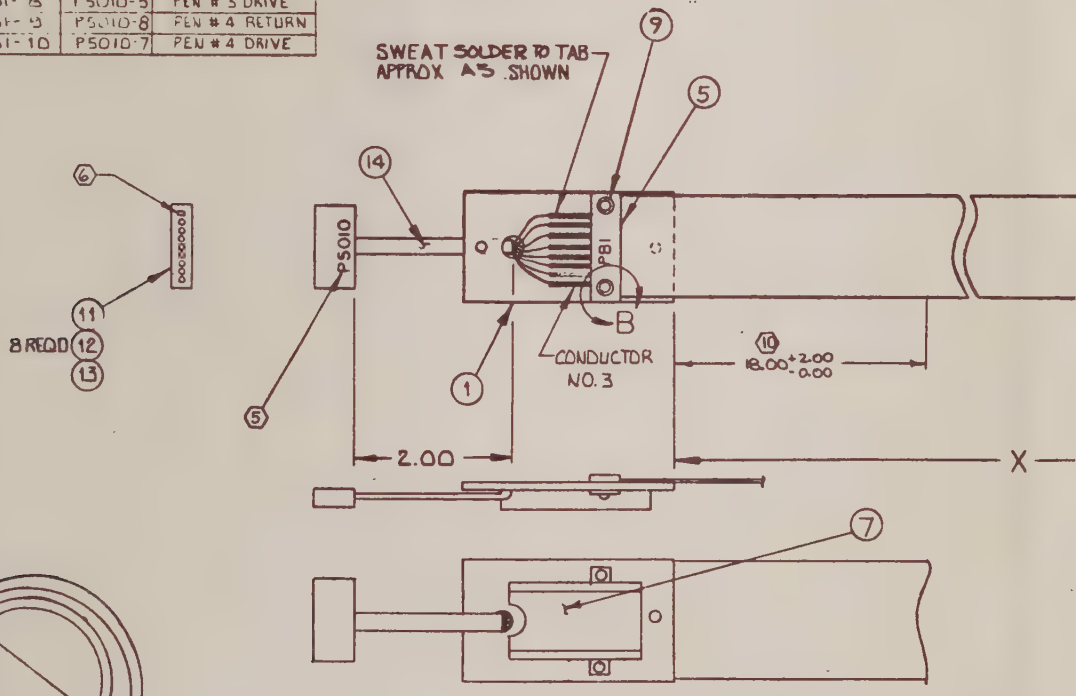
SHEET

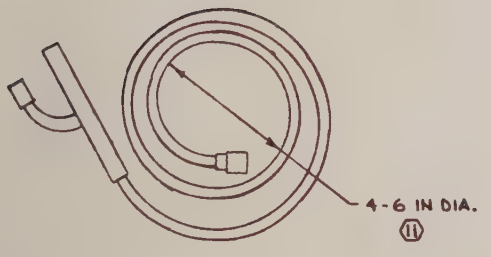
20578-401-000 C

WIRE LIST				
WIRE NO.	AWG	FROM ITEM & TERM	TO ITEM & TERM	REMARKS
1-	2	P2020-1	NC	
2-	2	P2020-2	NC	
3-	2	P2020-3	PB1-3	PEN # 1 RETURN
4-	2	P2020-4	PB1-4	PEN # 1 DRIVE
5-	2	P2020-5	PB1-5	PEN # 2 RETURN
6-	2	P2020-6	PB1-6	PEN # 2 DRIVE
7-	2	P2020-7	PB1-7	PEN # 3 RETURN
8-	2	P2020-8	PB1-8	PEN # 3 DRIVE
9-	2	P2020-9	PB1-9	PEN # 4 RETURN
10-	2	P2020-10	PB1-10	PEN # 4 DRIVE
11		P2020-11	NC	
12-		P2020-12	NC	
1 WHT	14	PB1-3	P5010-2	PEN # 1 RETURN
2 WHT	14	PB1-4	P5010-1	PEN # 1 DRIVE
3 WHT	14	PB1-5	P5010-4	PEN # 2 RETURN
4 WHT	14	PB1-6	P5010-3	PEN # 2 DRIVE
5 WHT	14	PB1-7	P5010-6	PEN # 3 RETURN
6 WHT	14	PB1-8	P5010-5	PEN # 3 DRIVE
7 WHT	14	PB1-9	P5010-8	PEN # 4 RETURN
8 WHT	14	PB1-10	P5010-7	PEN # 4 DRIVE



VIEW B





8. STRIP USING ABRASIVE STRIPPING MACHINE
7. REMOVE EDGE FLUSH WITH CONNECTOR
6. INSTALL KEY, ITEM 13, IN NO 9 CONTACT POSITION ON ITEM 11
5. APPLY DESIGNATIONS AS SHOWN USING .12 HIGH CHARACTER BY BEST PRACTICAL METHOD.
4. CABLE TERMINATION: INSTALL USING AMP CERTI-CRIMP TOOL NO. 90273-2.
3. REMOVE OUTER TWO CONDUCTORS
2. COVER I.D. PLATE WITH CLEAR PLASTIC TAPE P/N 70005-209-001, IC NO. 365920-8
1. TYPEWRITE IMPRESSION STAMP USING .10 HIGH CHAR PER CCP SPEC A0104-000 THE FOLLOWING P/N ___ RE

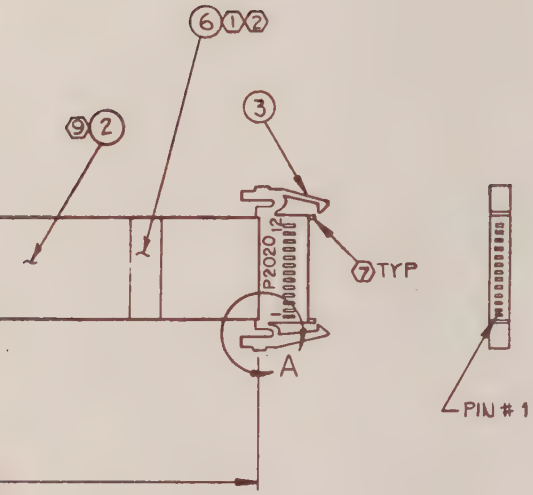
NOTES: UNLESS OTHERWISE SPECIFIED

11. FOR STORAGE ROLL CABLE AS SHOWN & LOOSELY TIE WITH TIE WRAP. (DO NOT USE TAPE).
10. SPREAD SMALL AMOUNT OF MOLY-DISLUPHIDE POWDER ALONG THIS AREA & BURNISH IT WELL INTO CABLE, COVERING CABLE WIDTH, BOTH SIDES. WIPE CABLE WITH DRY PAPER TOWEL TO REMOVE EXCESS POWDER.
9. INSIDE OF CABLE SET CURVE TO FACE FAR SIDE (I.E. CABLE ENDS TEND TO CURL DOWN INTO THE DRAWING PLANE).

REVISIONS 15769 16137 16148 16581			
REV	ZONE	DESCRIPTION	DATE & APPROVAL
0			
1		DELETED -021 ASSY, ON F/D W/L P5010-2 WAS -1, -1 WAS -2, -4 WAS -3, -3 WAS -4, -6 WAS -5, -5 WAS -6, -8 WAS -7, -7 WAS -8. EFFECTIVITY: B	10-5-77
2		1. ON F/D & L/M DELETED 2 ea 50001-206-004, 74002-206-031, 74007-206-031 & 60010-206-087 2. ADDED 40002-206-005 EYELET 3 IC. 423030-6 WAS 445910-3 EFFECTIVITY: F 12-12-77	ECR 5498 11-11-77
3		1. ON F/D & L/M 20825-512-000 1 REQ'D WAS 20825-502-000 1 REQ'D 2. IN L/M IC# 423030-6 WAS 445910-3 EFFECTIVITY: F 11-21-77	ECR 5517 1-4-78 J. JESSE
4		1. IN GIN'S & ON F/D ADDED NOTES # 9, 10, & 11. 2. IN L/M & ON F/D: 40002-206-012, 2 REQ'D WAS 40002-206-005, 2 REQ'D 3 IN L/M & ON F/D ADDED 10171-210-000 1 REQ'D EFFECTIVITY: B 2-20	ECR 5694 2-13-78 J JESSE

VIEW A

(CONNECTOR ITEM 3 REMOVED FOR CLARITY).



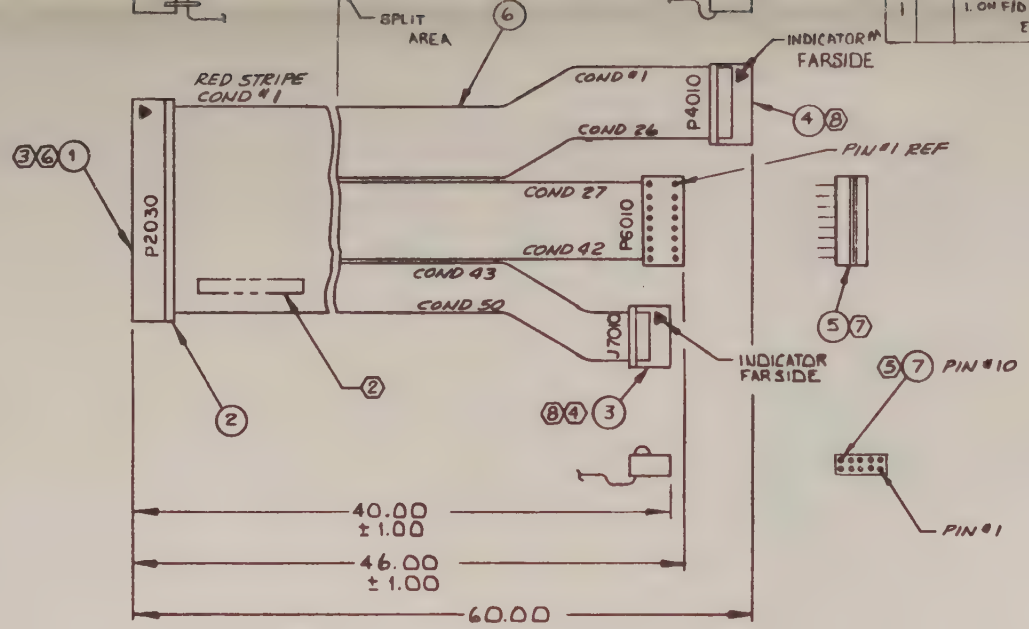
TAB BLOCK		
I.C. NO.	DASH NO.	DIM. X
444070-7	-011	120.0

SEE TAB I.C. NO.	ITEM NO.	REQD	REQD -011	PART OR IDENTIFYING NO.	NOMENCLATURE OR DESCRIPTION	MATERIAL SIZE, DESCRIPTION & SPECIFICATION			ZONE
					LIST OF MATERIAL OR PARTS LIST				
174230-3	14		2FT	10203-405-138	WIRE-STRD	26 AWG WHT			
370250-3	13		1	80505-404-001	KEY				
408430-7	12		8	80504-404-003	CONTACT				
409690-5	11		1	30056-404-009	CONNECTOR			P5010	
	10								
032310-5	9		2	40002-206-012	EYELET				
	8								
454320-3	7		1	10171-210-000	SHIELD				
175040-5	6		1	11254-204-000	PLATE I.D.				
404420-2	5		1	21554-203-000	STRAIN RELIEF				
438340-2	4		12	80096-404-001	TERM, RECEPT.	86570-0	AMP		
438330-3	3		1	30070-404-001	HOLSING, LATCH	86793-9	AMP	P2020	
423030-6	2		10FT	30409-405-001	CABLE-FLEX				
441550-1	1		1	20825-512-000	P.C.B. PEN CARR.			PB1	
SEE TAB	ITEM		1	20579-401	CABLE ASSY				

DIMENSIONS ARE IN INCHES TOLERANCES ON DECIMALS XX ± .03 XXX ± .010 ANGLES ± 0° 30' UNLESS OTHERWISE SPECIFIED	DRAWN	10/7/77	CALIFORNIA COMPUTER PRODUCTS INC. 1270 NORTH KRAEMER BLVD, ANAHEIM, CALIFORNIA 92805 2411 WEST LA PALMA, ANAHEIM, CALIFORNIA 92801
	CHECK	8-12-77	
	APPD		CABLE ASSY - PEN CARRIAGE
	APPD		
	APPD		
MODEL NO. 1037-1039 1051-1061	FINISH		SCALE. NONE SIZE D 20579-401-011
NEXT ASSY	HEAT TREAT		SHEET
FIRST USAGE			

20579-401-011 4

CTERS



ITEM NO	REQD	PART OR IDENTIFYING NO.	NOMENCLATURE OR DESCRIPTION	MATERIAL SIZE, DESCRIPTION & SPECIFICATION		ZONE
370250-3	7	1	80505-404-001	KEY-CONN.		
414200-6	6	4FT	30408-405-018	CABLE, RIBBON	50 COND.	28 AWG
443820-6	5	1	50032-404-009	CONNECTOR	CA16IDP-190	
438210-7	4	1	30049-404-004	SOCKET, CONN.	3M # 3399-3000	
438220-6	3	1	30049-404-002	SOCKET, CONN	3M # 3473-3000	
438190-2	2	1	60046-404-003	STRAIN RELIEF	3M # 3448-17	
438170-3	1	1	60046-404-001	SOCKET, CONN.	3M # 3307	
441BL0-4	ITEM NO	1	20581-401-000	CABLE ASSY		

LIST OF MATERIAL OR PARTS LIST

(8) 8. INSTALL USING 3 M TOOLING, PLATEN NO 3442-1, LOCATOR NO 3443-9

(7) 7. INSTALL USING CIRCUIT ASSEMBLY TOOL NO CA120006

(6) 6. INSTALL USING 3M TOOLING, PLATEN NO. 3442-2, LOCATOR NO. 3443-42

(5) 5. INSTALL IN CONTACT LOCATION NO 10

(4) 4. EIGHT CONDUCTORS TERMINATED AT THIS POINT; COND# 43 TO BE AT (L) MARK

(3) 3. NOTE ROUTING OF CABLE THRU EACH STRAIN RELIEF

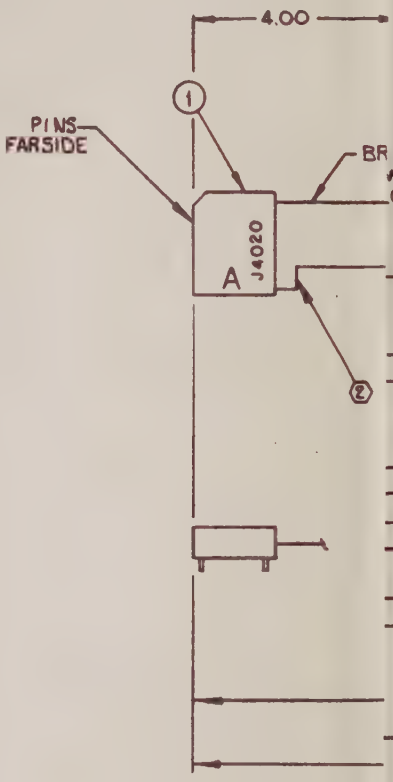
(2) 2. RUBBER STAMP PART NO & REV NO. USING .12 HIGH WHITE CHARACTERS PER CCP A0104-001.

(1) 1. APPLY DESIGNATIONS AS SHOWN BY BEST PRACTICAL METHOD PER CCP A0104-000

NOTES: UNLESS OTHERWISE SPECIFIED

DIMENSIONS ARE IN INCHES	DRAWN	7/12/77	CALIFORNIA COMPUTER PRODUCTS INC.
TOLERANCES ON	CHECK	R1277	☐ 1270 NORTH KRAEMER BLVD, ANAHEIM, CALIFORNIA 92806
DECIMALS XX ± .03, XXX ± .010 / ANGLES ± 0° 30'	APPD		■ 2411 WEST LA PALMA, ANAHEIM, CALIFORNIA 92801
UNLESS OTHERWISE SPECIFIED	APPD		CABLE ASSY — CONTROL
MODEL NO. 1037-1039	APPD		SCALE: NONE / SIZE: C / 20581-401-000
NEXT ASSY	FINISH		SHEET
FIRST USAGE	HEAT TREAT		

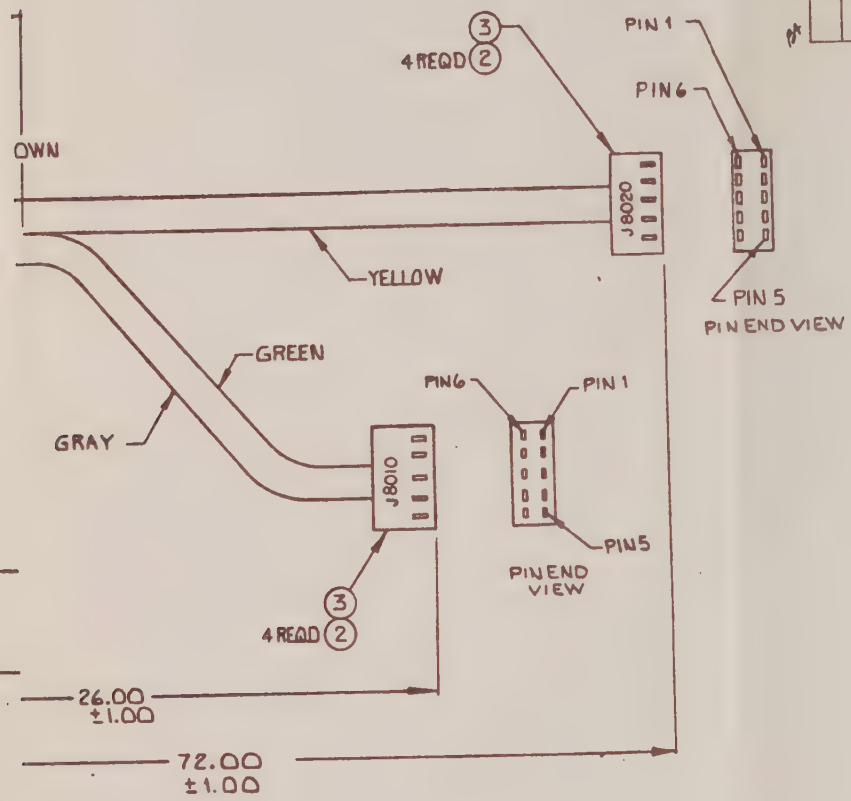
20581-401-000



WIRE LIST				
WIRE		FROM	TO	REMARKS
NO.	L/M ITEM NO.	ITEM & TERM	ITEM & TERM	
1 BRN	1	J4020-1	J8020-1	+5V
1 RED	1	J4020-16	J8020-4	LIMYP
1 ORG	1	J4020-2	J8020-6	GND
1 YEL	1	J4020-15	J8020-9	GND
1 GRN	1	J4020-3	J8010-1	+5V
1 BLU	1	J4020-14	J8010-4	LIMYM
1 VIO	1	J4020-4	J8010-6	GND
1 GRY	1	J4020-13	J8010-9	GND

4. APPLY CONNECTOR DESIGNATIONS A
.12 HIGH CHARACTERS BY BEST PRACTIC
3. IDENTIFY P/N BY BEST PRACTICAL ME
(2) 2. CUT & WIRES APPROXIMATELY
HEADER.
(1) 1. MAKE FROM 20366-401-258 RI
NOTES: UNLESS OTHERWISE SPEC

REVISIONS			
REV	ZONE	DESCRIPTION	DATE & APPROVAL
0			
1		P/L: 20366-401-258 WAS 20366-401-257, ADDED NOTE 5 384. EFFECTIVITY: B	10-3-77
2		1. IN LVL "10" COLUMN PINS 1,4, 6,9,1,4,6 & 9 WERE 6,9,1,4,6,9,1,4 EFFECTIVITY: B 11-28-77	ECR 5536 11-28-77



ITEM NO.	REQD	PART OR IDENTIFYING NO.	NOMENCLATURE OR DESCRIPTION	MATERIAL SIZE, DESCRIPTION & SPECIFICATION	ZONE
443850-3	3	2	30073-404-010	CONNECTOR	BERG-65043-032 MINI-LATCH
408430-7	2	8	80504-404-003	CONTACT	
410430-3	1	1	20366-401-258	CABLE	
442040-2	1	1	20583-401-000	CABLE ASSY	
I.C. NO.					

LIST OF MATERIAL OR PARTS LIST

IS SHOWN USING
AL METHOD.
THOD.
.25 FROM CABLE
ACTI
EMOVE B CONNECTOR
IFIED

DIMENSIONS ARE IN INCHES
TOLERANCES ON
DECIMALS .XX ± .03 .XXX ± .010
ANGLES ± 0° 30'
UNLESS OTHERWISE SPECIFIED

MODEL NO. 1037-1039 1051/1061
NEXT ASSY
FIRST USAGE

DRAWN 8/2/77
CHECK 8-12-77
APPD
APPD
APPD
FINISH
HEAT TREAT

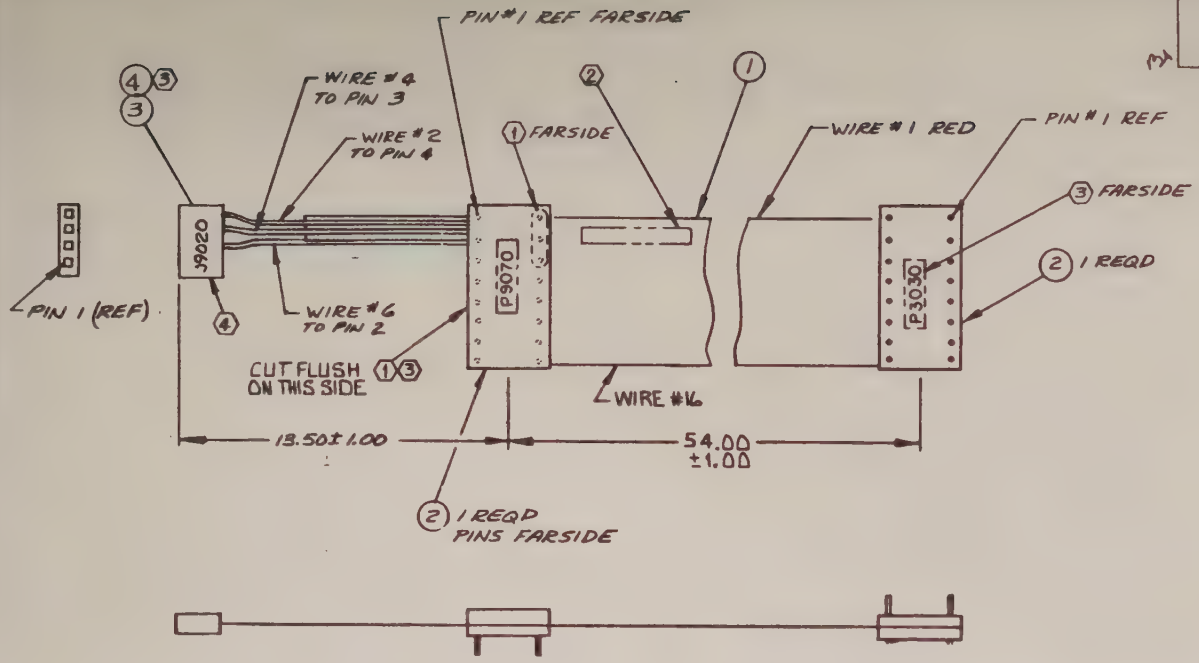
CALIFORNIA COMPUTER PRODUCTS INC.
☐ 1270 NORTH KRAEMER BLVD, ANAHEIM, CALIFORNIA 92806
■ 2411 WEST LA PALMA, ANAHEIM, CALIFORNIA 92801

CABLE ASSY — LIMIT SWITCH

SCALE: NONE
SIZE D
20583-401-000
SHEET

20583-401-000 2

0			
1	1. DELETED 50202-405-014 SLV. & ADDED 30056-404-004 CONN 2. ADDED G/N'S 5 & 6 3. ON F/D DIM 13.50 WAS 16.00 EFFECTIVITY: F 12-12-77	ECR 5571 12-12-77	



ITEM NO.	QTY REQD		PART OR IDENTIFYING NO.	NOMENCLATURE OR DESCRIPTION	MATERIAL SIZE, DESCRIPTION & SPECIFICATION			ZONE
392390-1	4	1	30056-404-004	CONNECTOR	(BERG 4 POS)			
408430-7	3	3	80504-404-003	CONTACT				
143820-6	2	2	50032-404-009	CONNECTOR	CAILDP-190			
413830-1	1	1	30406-405-002	CABLE-RIBBON				
444680-3	ITEM	1	20610-401-000	CABLE ASSY				
I C NO.								

LIST OF MATERIAL OR PARTS LIST

④ 6. IDENTIFY PIN 1 WITH WHITE INK
5. TEAR CABLE (ITEM 1) DOWN TO 16 CONDUCTORS
③ 4. APPLY DESIGNATIONS AS SHOWN BY BEST PRACTICAL METHOD PER CCP SPEC A0104-001
3. ASSEMBLE USING CIRCUIT ASSY TOOL # CA120006
② 2. RUBBER STAMP PART NO. & REV. NO. USING .12 HIGH WHITE CHARACTERS PER CCP SPEC A0104-001
① 1. CUT WIRES 1,3 & 5 BACK 1" FROM J9020 & WIRES 7-16 FLUSH WITH CONN P9070 ON 1-8 SIDE. CUT PINS 14,15, & 16 ON CONN P9070

NOTES: UNLESS OTHERWISE SPECIFIED.

DIMENSIONS ARE IN INCHES
TOLERANCES ON
DECIMALS: .XX ± .03, .XXX ± .010
ANGLES: ± 0° 30'
UNLESS OTHERWISE SPECIFIED

DRAWN 7/11/77
CHECK 7/11/77
APPD
APPD
APPD

MODEL NO. 1037-1039 1051/1055
NEXT ASSY
FIRST USAGE

FINISH
HEAT TREAT

CALIFORNIA COMPUTER PRODUCTS INC.
1270 NORTH KRAEMER BLVD, ANAHEIM, CALIFORNIA 92805
2411 WEST LA PALMA, ANAHEIM, CALIFORNIA 92801

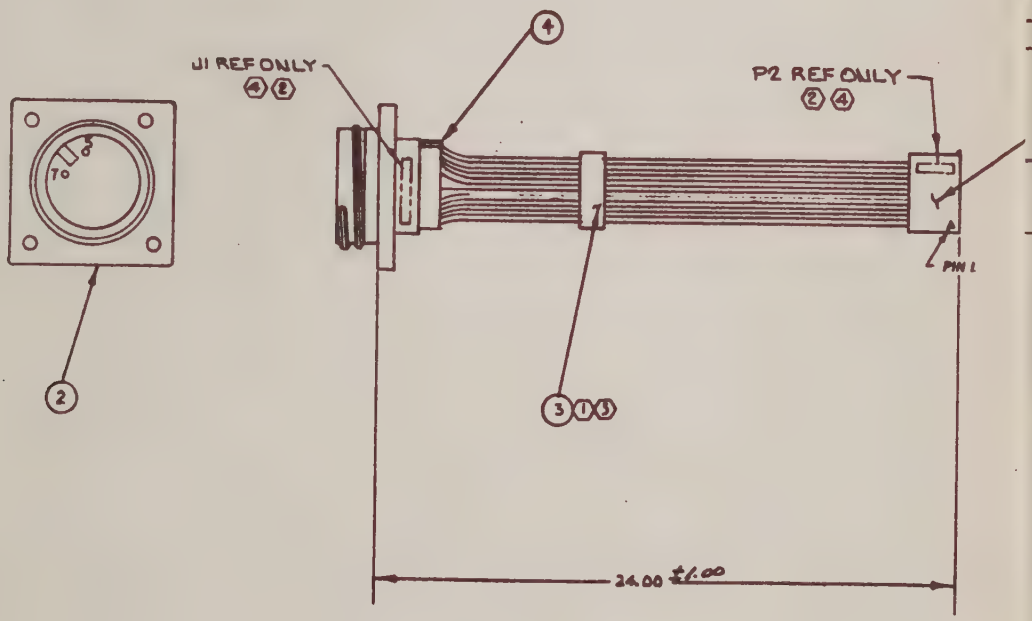
CABLE ASSY - PLOTTER/OPC DISPLAY

SCALE: NONE
SIZE: C
20610-401-000
SHEET

20610-401-CCC

WIRE LIST

WIRE NO	ITEM NO	FROM	TO	REMARKS
1 BLK	1	P2-12	J1-1	XNP
1 RED	1	P2-11	J1-2	XPP
1 BLUE	1	P2-9	J1-3	YPP
1 GRAY	1	P2-13	J1-4	YNP
1 BRN	1	P2-1	J1-5	XNN
1 GRN	1	P2-3	J1-6	XPN
1 BLUE	1	P2-14	J1-7	YPN
1 ORG	1	P2-2	J1-8	YNN
1 WHITE	1	P2-5	J1-9	PUP
1 VIOLET	1	P2-4	J1-10	PDP
1 YELL	1	P2-15	J1-11	PUN
1 RED	1	P2-16	J1-12	PDN
1 BRN	1	P2-6	J1-13	CKT GND
1 YELL	1	P2-10	J1-14	CH GND
1 GRN	1	P2-8	J1-15	SIG GND
1 ORG	1	P2-7	J1-16	READY
		N/C	17	
		N/C	18	
		N/C	19	



4 5. MARK AT ASSY PER CABLE ROUTING DIAGRAM 20334-503-000.
3 4. TYPEWRITER IMPRESSION STAMP WITH PIN E PER CCP SPEC A0104-001.
2 3. APPLY DESIGNATIONS USING .12 HIGH PWI C BY BEST PRACTICAL METHOD
2. WIRE PER PWL ON F/O
1 1. COVER LB WITH PLASTIC TAPE PIN 7000-249-001.
NOTE: UNLESS OTHERWISE SPECIFIED

REVISIONS			
REV	ZONE	DESCRIPTION	DATE & APPROVAL
0			
1		1. IN W/L 1 BRN P2-6 TO J1-13 WAS 1 ORG P2-7 TO J1-13 2. IN W/L 1 ORG P2-7 TO J1-16 WAS 1 BRN P2-6 TO J1-16 EFFECTIVITY: B 11-28-77	ECR 5543 11-28-77

15769 16211

ITEM NO.	REQD	PART OR IDENTIFYING NO.	NOMENCLATURE OR DESCRIPTION	MATERIAL SIZE, DESCRIPTION & SPECIFICATION	ZONE
233280-7	4	1 FT.	50202-405-034	SHRINK SLEEVING	
175040-5	3	1	11254-204-000	NAMEPLATE	
032570-4	2	1	10028-404-000	CONN. RCPT.	
439560-4	1	1	20366-401-651	CABLE ASSY	
445920-2	1	1	20615-401-000	CABLE ASSY. I/O	103X PLOTTER

LC NO.

LIST OF MATERIAL OR PARTS LIST

DIMENSIONS ARE IN INCHES
TOLERANCES ON
DECIMALS XX ± .03, XXX ± .010
ANGLES ± 0° 30'
UNLESS OTHERWISE SPECIFIED

DRAWN	JESSE	7-25-77
CHECK		7-25-77
APPD		
APPD		
APPD		

MODEL NO. 1037 - 1039
NEXT ASSY
FIRST USAGE
FINISH
HEAT TREAT

CALIFORNIA COMPUTER PRODUCTS INC.
☐ 1270 NORTH KRAEMER BLVD, ANAHEIM, CALIFORNIA 92806
☒ 2411 WEST LA PALMA, ANAHEIM, CALIFORNIA 92801

CABLE ASSY- I/O 103X PLOTTER

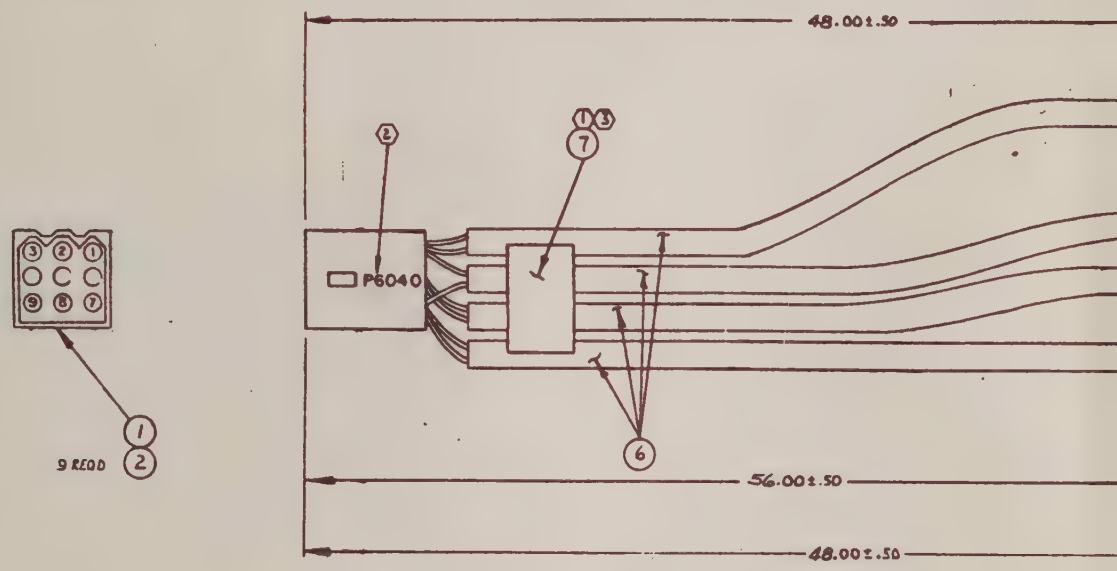
SCALE: NONE
SIZE: D
20615-401-000
SHEET

20615-401-000

REV
LC 365920-6

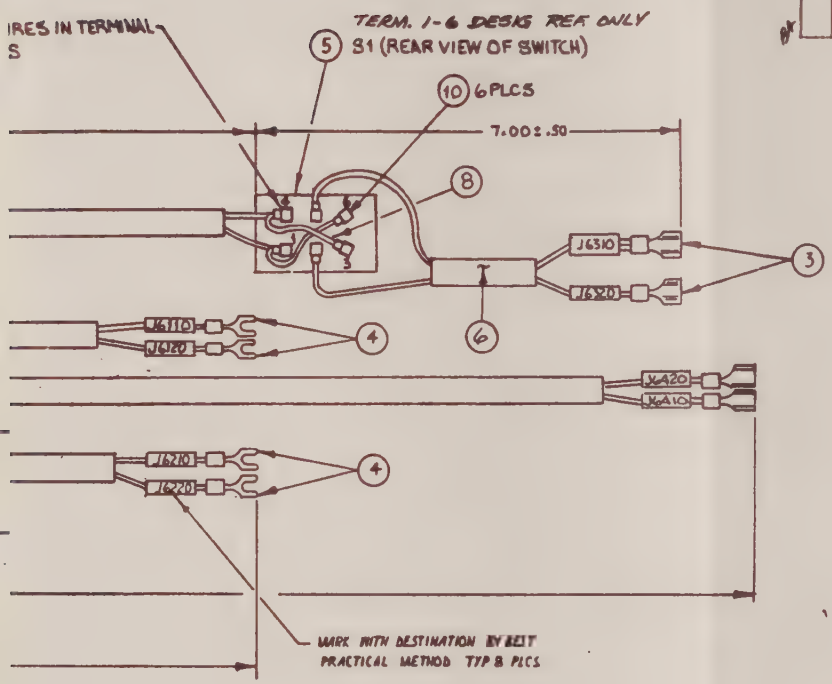
WIRE LIST				
WIRE NO	ITEM NO	FROM	TO	REMARKS
1 WHITE	6	P6040-1	SI-1	FPM
1 BLK	6	P6040-2	SI-4	FPM RET
2 WHITE	6	P6040-3	J6110	XMTR
2 BLK	6	P6040-7	J6120	XMTR RET
3 WHITE	6	P6040-5	J6410	RPM RET
3 BLK	6	P6040-4	J6420	RPM
		P6040-6		SPARE
4 WHITE	6	P6040-8	J6210	YMTR
4 BLK	6	P6040-9	J6220	YMTR RET
5 WHITE	6	SI-2	J6310	
5 BLK	6	SI-5	J6320	
6	8	SI-1	SI-6	
7	8	SI-3	SI-4	

TWO W
2 PL



(3) 4 TYPEWRITER IMPRESSION STAMP WITH P/N & REV PER CCP SPEC A0104-001
(2) 3 APPLY DESIGNATIONS USING .12 HIGH CHAR BY BEST PRACTICAL METHOD
2. WIRE PER M/L ON F/O
(1) 1 COVER 1 D WITH PLASTIC TAPE, P/N 10005-209-001, I.C 365920-8
NOTE: UNLESS OTHERWISE SPECIFIED

REVISIONS			
REV	ZONE	DESCRIPTION	DATE & APPROVAL
0			
1		F/D & P/L: ADDED ITEM TO, DELETED ITEM 9. P/L 10024-304-002 WAS 10109-304-001, 10207-405-140 WAS 20101-405-022 EFFECTIVITY: B	10-5-77
2		1. ON F/D DIM 4800 WAS 32.00, 56.00 WAS 20.00 & 48.00 WAS 32.00 2. IN L/M 30505-405-002 17 FT WAS 9.5 FT EFFECTIVITY: B 11-28-77	ECR 5538 11-28-77



	ITEM NO	REQD	PART OR IDENTIFYING NO.	NOMENCLATURE OR DESCRIPTION	MATERIAL SIZE, DESCRIPTION & SPECIFICATION				ZONE
069530-4	10	6	11522-206-001	TERMINAL					
	9								
405820-2	8	.2 FT	10207-405-140	WIRE	22 AWG, WHITE				
(1) 175040-5	7	1	11254-204-000	I.D. NAMEPLATE					
242370-5	6	17 FT	30505-405-002	CABLE - SHIELDED	22 AWG WHITE/BLK				
446310-5	5	1	10024-304-002	SWITCH, ROCKER					
205190-2	4	4	11506-206-002	TERMINAL					
125880-5	3	4	11544-206-002	CONTACT					
218430-7	2	9	80353-404-001	CONTACT					
219390-2	1	1	80319-404-002	PLUG					
445890-7	ITEM NO	REQD	20616-401-000	MOTOR CABLE ASSY					
I.C. NO.			PART OR IDENTIFYING NO.	NOMENCLATURE OR DESCRIPTION	MATERIAL SIZE, DESCRIPTION & SPECIFICATION				ZONE

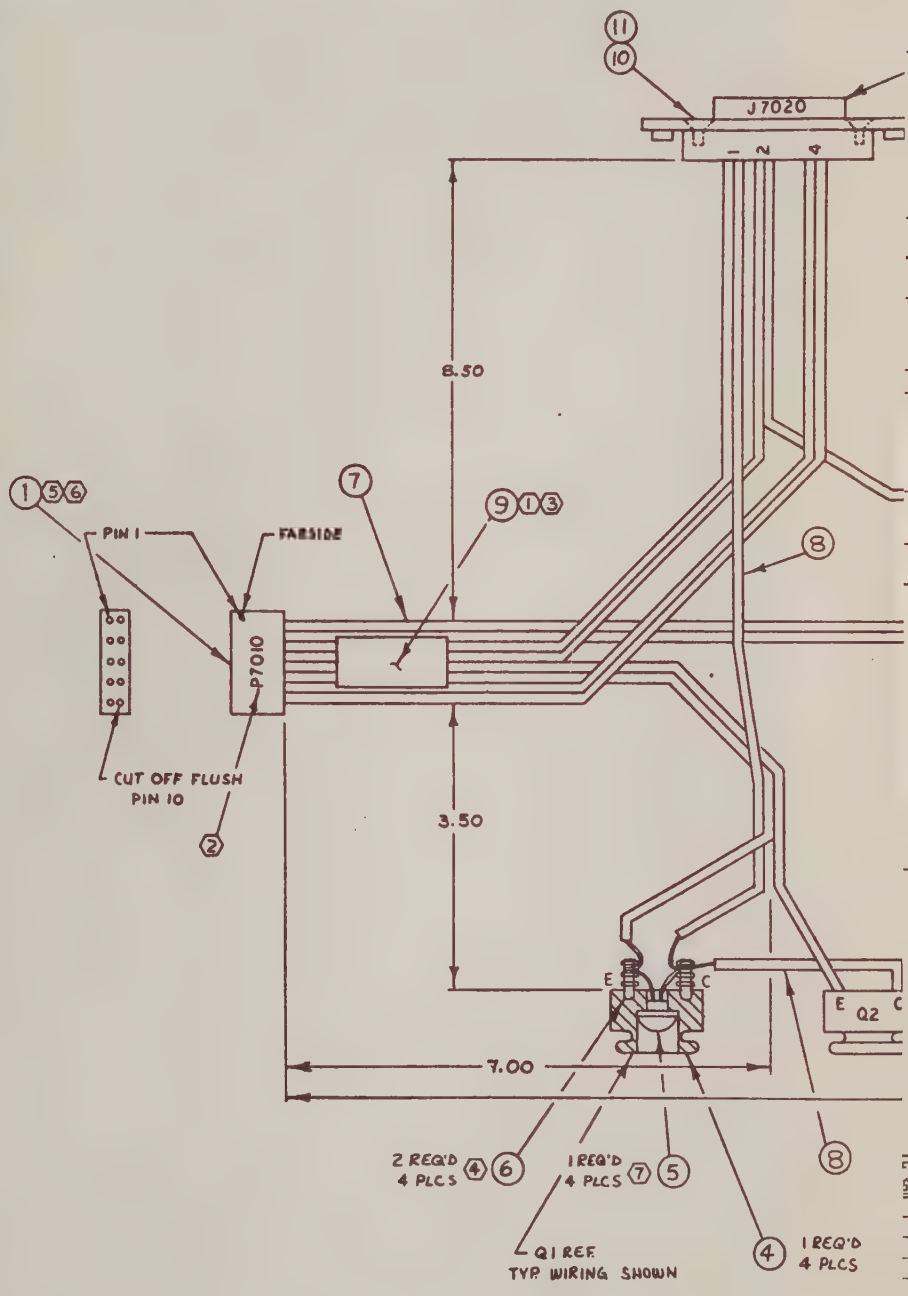
LIST OF MATERIAL OR PARTS LIST

DIMENSIONS ARE IN INCHES TOLERANCES ON DECIMALS XX ± .03, XXX ± .010 ANGLES ± 0° 30' UNLESS OTHERWISE SPECIFIED	DRAWN JESSE	7-27-77	CALIFORNIA COMPUTER PRODUCTS INC. 1270 NORTH KRAEMER BLVD, ANAHEIM, CALIFORNIA 92805 2411 WEST LA PALMA, ANAHEIM, CALIFORNIA 92801
	CHECK	8-1-77	
	APPD		MOTOR CABLE ASSY-DESK
	APPD		
	APPD		
MODEL NO. 1037-1039	FINISH		SCALE: NONE
NEXT ASSY			SIZE D 20616-401-000
FIRST USAGE	HEAT TREAT		SHEET

20515-401-000 2

WIRE LIST

WIRE NO.	L/M NO.	FROM ITEM # TERM	TO ITEM # TERM	REMARKS
1 BRN	7	P7010-1	Q3-E	PSF
1 RED	7	P7010-2	Q-4-E	PSF
1 ORG	7	P7010-3	J7020-1	+15
1 YEL	7	P7010-4	J 7020-2	+16
1 GRN	7	P7010-5	Q2-E	PSR
1 BLU	7	P7010-6	Q1-E	PSR
1 VIO	7	P7010-7	J7020-4	GND
1 GRY	7	P7010-8	J7020-4	GND
2 WHT	8	J7020-1	Q1-C	+15
3 WHT	8	Q1-C	Q2-C	
4 WHT	8	J7020-2	Q3-C	+15
5 WHT	8	Q3-C	Q4-C	



(8) 9. SEPARATE RIBBON CABLE INTO FIVE, EIGHT CONDUCTOR STRIPS, PER COLOR CODE ON W/L

(7) 8. DO NOT PERMIT EXCESSIVE HEAT TO BE TRANSFERED. TO PHOTO TRANSISTORS (ITEM 5).

(6) 7. TERMINATE USING 3 M TOOLING, PLATEN NO 3442-1, LOCATOR NO 3443-28.

(5) 6. NO 1 CONDUCTOR TO TERMINATE AT PIN 1 (9) LOCATION.

(4) 5. REMOVE AND DISCARD TEFLON INSULATOR, PRESS IN PLA

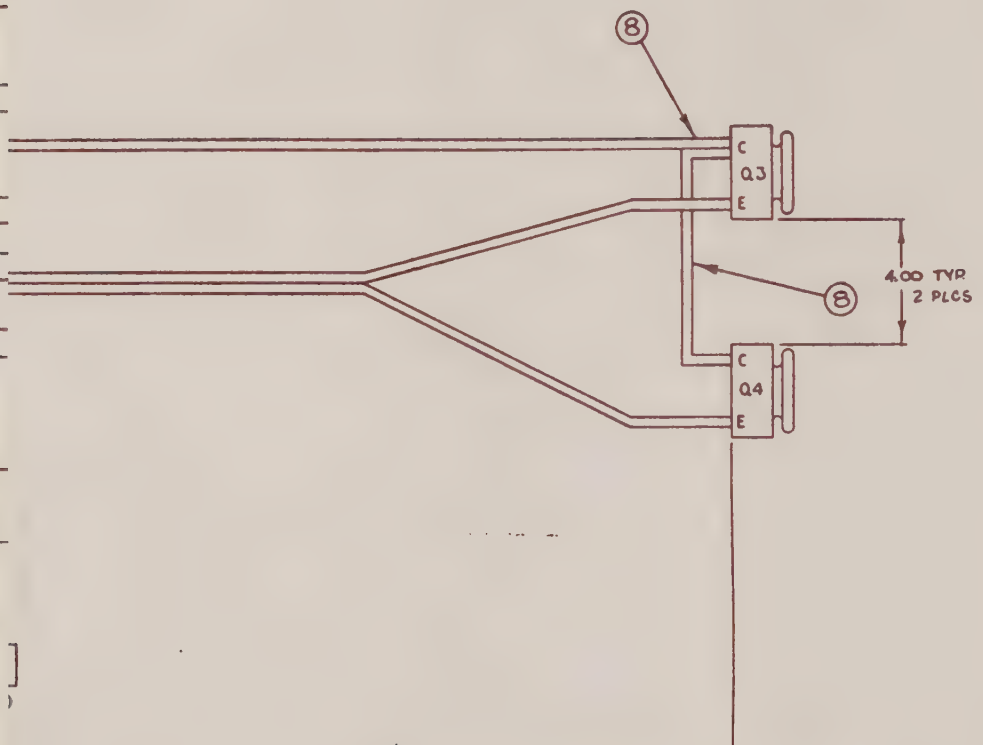
(3) 4. TYPEWRITE IMPRESSION USING .10 HIGH CHARACTERS PER SPEC. A0104-001. THE FOLLOWING PART NO. 20617-401-00C

(2) 3. APPLY DESIG. AS SHOWN USING .12 HIGH WHITE CHARACTERS BEST PRACTICAL METHOD.
2 WIRE PER W/L ON F/D.

(1) 1. COVER ID WITH PLASTIC TAPE P/N 70005-209-001 ICN 3659

NOTE: UNLESS OTHERWISE SPECIFIED.

REVISIONS			
REV	ZONE	DESCRIPTION	DATE & APPROVAL
0			
1		1. P/L 30406-405-002 QTY 2.5 FT WAS 60.00 IN, 10207-405-138 ADDED QTY 2.5 FT. EFFECTIVITY: F	LARRY WHITE 10-7-77
2		REVISED & REDRAWN EFFECTIVITY: B 11-21	ECR # 5485 11-21-77 J JESSE
3		1. ADDED C/N 9 & CODED TO 4/M EFFECTIVITY: F 1-9-78	ECR 5599 1-5-78



ITEM NO.	REQD	PART OR IDENTIFYING NO.	NOMENCLATURE OR DESCRIPTION	MATERIAL SIZE, DESCRIPTION & SPECIFICATION	ZONE
11	2	60005-206-165	SCREW, FLAT HD.	4-40 X 1/4	
10	1	21558-203-000	ADAPTER PLATE		
9	1	11254-204-000	ID PLATE		
8	2.5FT	10207-405-138	WIRE - STRD.	26 AWG WHT.	
7	2.5FT	30406-405-002	CABLE RIBBON	28 AWG	
6	8	12539-206-000	TERMINAL		
5	4	50109-507-000	PHOTOTRANSISTOR		
4	4	13816-204-000	MOUNT- LED		
3	1	30052-404-001	CONNECTOR - PCB	6 CONTACT	
2					
1	1	60045-404-001	CONNECTOR		
1	1	20617-401-000	CABLE ASSY		

IC NO.

LIST OF MATERIAL OR PARTS LIST

DIMENSIONS ARE IN INCHES
TOLERANCES ON
DECIMALS .XX ± .03, .XXX ± .010
ANGLES ± 0° 30'
UNLESS OTHERWISE SPECIFIED

DRAWN	JESSE	11 7 77
CHECK		
APPD		
APPD		
APPD		
FINISH		
HEAT TREAT		

MODEL NO. 1051 1041
NEXT ASSY
FIRST USAGE

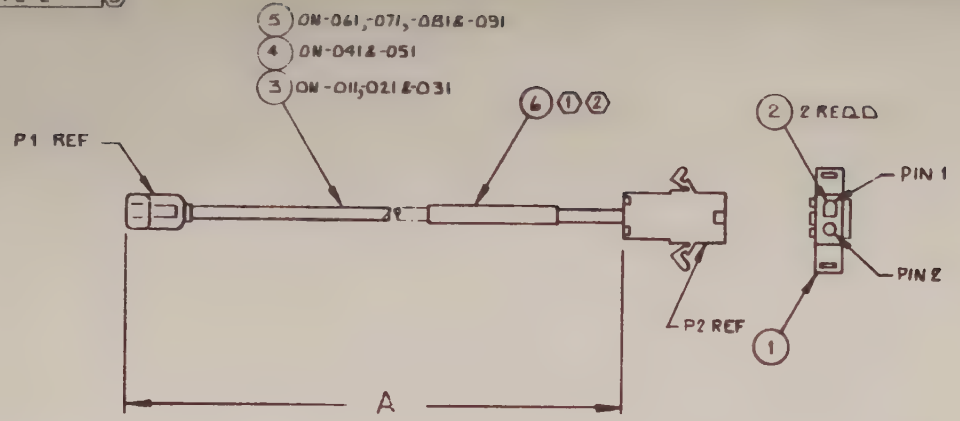
CALIFORNIA COMPUTER PRODUCTS INC.
1270 NORTH KRAEMER BLVD. ANAHEIM, CALIFORNIA 92806
2411 WEST LA PALMA, ANAHEIM, CALIFORNIA 92801

CABLE ASSY- PAPER SERVO LIGHT SENSO

SCALE: NONE
SIZE: D
20617-401-000
SHEET

20617-401-000 3

2	P1-2	P2-2	(3)



I.C NO	DASH NO.	A-DIM
446860-9	-011	12.0±0.5
446870-8	-021	18.0±0.5
446880-7	-031	24.0±1.0
446890-6	-041	30.0±1.0
446900-3	-051	36.0±1.0
446910-2	-061	42.0±1.5
446920-1	-071	48.0±1.5
446930-0	-081	54.0±1.5
446940-9	-091	60.0±1.5

	ITEM NO.	-091	-081	-071	-061	-051	-041	-031	-021	-011	PART OR IDENTIFYING NO.	NOMENCLATURE OR DESCRIPTION	MATERIAL SIZE, DESCRIPTION & SPECIFICATION	ZONE
	10													
	9													
	8													
	7													
175040-5	6	1	1	1	1	1	1	1	1	1	11254-204-000	PLATE I.D.		
223410-2	5	1	1	1	1						50003-301-006	CABLE, 6 FT		
225250-0	4					1	1				50003 301-003	CABLE, 3FT		
089910-4	3							1	1	1	50003-301-001	CABLE, 2FT		
205930-1	2	2	2	2	2	2	2	2	2	2	80304-404-001	CONTACT, MALE	1190TL	
436630-8	1	1	1	1	1	1	1	1	1	1	80374-404-002	HOUSING, PLUG	19-09-2028	
SEE TAB I.C. NO.	ITEM NO.	QTY REQUIRED							REQD	REQD	20627-401-	CABLE		

LIST OF MATERIAL OR PARTS LIST

(3) 3. IDENTIFY CABLE CONNECTORS AT SYSTEM FUNCTIONAL TEST ASS'Y.
(2) 2. TYPEWRITE IMPRESSION STAMP WITH P/N & REV. NO. PER CCP SPEC A0104-001
(1) 1. COVER I.D. WITH CLEAR PLASTIC TAPE P/N 78005-209-001. IC 365290-8
NOTES: UNLESS OTHERWISE SPECIFIED

DIMENSIONS ARE IN INCHES
TOLERANCES ON
DECIMALS: XX ± .03, XXX ± .010
ANGLES ± 0° 30'
UNLESS OTHERWISE SPECIFIED

DRAWN
CHECK
APPD
APPD
APPD

MODEL NO.
NEXT ASSY
FIRST USAGE
FINISH
HEAT TREAT

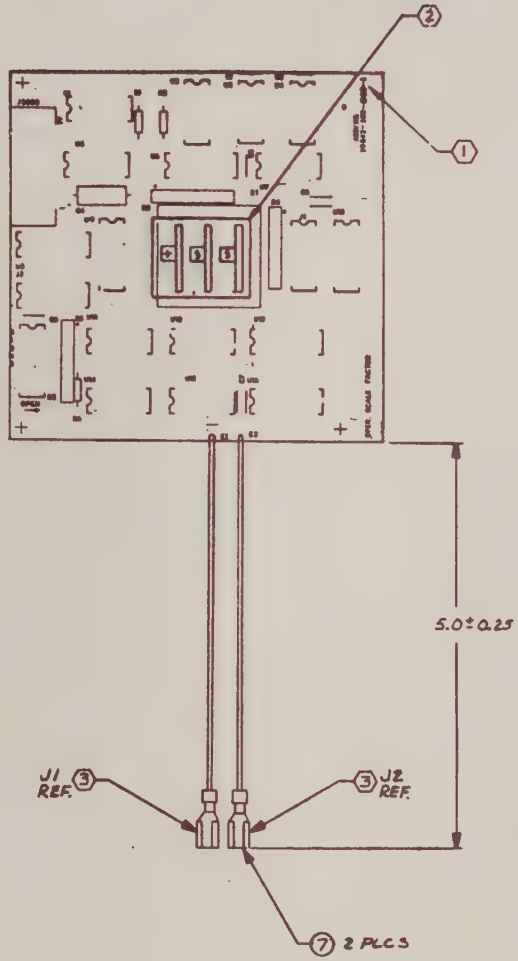
CALIFORNIA COMPUTER PRODUCTS INC.
1270 NORTH KRAEMER BLVD, ANAHEIM, CALIFORNIA 92805
2411 WEST LA PALMA, ANAHEIM, CALIFORNIA 92801

CABLE- FAN POWER

SCALE: NONE
SIZE: C
20627-401
SHEET

20627-401
0

WIRE LIST				
WIRE		FROM	TO	
NO.	LIM ITEM NO.		TERM ITEM	
1	15	E1	7	J1
2	15	E2	7	J2



LAST REF DES USED
R6
C7
U16
S2
E2

3 6. TAG WITH CO
AT NEXT AS
2 5. ALIGN SWITC
BEFORE SOLD
4. CAPACITOR
AND ARE RA
3. RESISTOR V
ARE 1/4 WA
1 2. APPLY DASH
CHARACTERS
1. PERFORMANC
NOTE: UNL

REVISIONS			
REV	ZONE	DESCRIPTION	DATE & APPROVAL
0		DWG NO. 20842-502-000-0 WAS X20842-502-000-A. PRODUCTION RELEASE	28 APR 77
1		IN L/M AND F/D 10204-405-142 QTY 1' WAS 10"; ADDED GENERAL NOTE 6; ADDED WIRE LIST EFFECTIVITY: F 12-5-77	ECR 5481 B. CULLUM 11-8-77

LC. NO.	ITEM NO.	REQD	PART OR IDENTIFYING NO.	NOMENCLATURE OR DESCRIPTION	MATERIAL SIZE, DESCRIPTION & SPECIFICATION		ZONE
444490-7	25	1	20842-512-000	PRINTED BOARD	OPER. SCALE FACTOR		
	24						
411540-8	23	1	10494-508-000	INTEGRATED CKT.	SN74LS10	U3	(74LS10)
411730-5	22	2	10510-508-000		SN74LS85	U13, U16	(74LS85)
360140-8	21	4	10427-508-000		SN74H87	U11, 12, 14, 15	(74H87)
417660-8	20	2	10532-508-000		SN74LS283	U8, U9	(74LS283)
341430-7	19	2	10419-508-000		SN74184	U6, U10	(74184)
409780-4	18	3	10486-508-000		SN74LS00	U2, U4, U7	(74LS00)
341420-8	17	2	10418-508-000	INTEGRATED CKT.	SN7406	U1, U5	(7406)
	16						
236210-1	15	1'	10204-405-142	WIRE	18 AWG, WHITE		
303450-1	14	6	10507-505-190	CAPACITOR	.068 uF +50% -80% 25V	C1, 2, 3, 5, 6, 7	
121740-3	13	1	10202-505-328	CAPACITOR	39 uF, ±10%, 10V	C4	
	12						
	11						
438120-8	10	3	60109-504-432	RESISTOR, NET.	4.7K OHMS ±2%, .3W SIP	R3, 4, 5	
109180-0	9	3	10212-504-432	RESISTOR	4.7K OHMS ±5%, 1/4W	R1, 2, 6	
374210-3	8	2	50023-404-001	SOCKET, I.C., 16 PIN		J1, J2	
443260-5	7	2	11553-206-002	LUG-TERMINAL, INSULATED, QUICK DISCONNECT, FEMALE			
438150-3	6	1	30066-404-002	CONNECTOR	20 CONT. RIGHT ANGLE HEADER	J3020	
	5						
	4						
(2) 345810-6	3	1	11205-304-001	SWITCH, THUMBWHEEL	2 [illegible]	S1	
400960-1	2	1	10129-304-008	SWITCH, DIP	8 POSITION (SPST)	S2	
	1						
440150-1	ITEM NO.	1	20842-502-000	ASSY. OPER. SCALE FAC.			

LIST OF MATERIAL OR PARTS LIST

INECTOR DESIGNATION
SY.
H WITH MATING PANEL OR JIG
ERING

/ALUES ARE IN MICROFARADS ± 10%
TED AT 25 VOLTS
LUES ARE IN OHMS ± 5% AND
T
NO. AND REVISION NO. USING BLACK
PER C.C.P SPEC. A0104-001
TEST PER C.C.P. SPEC. A0508-337
ESS OTHERWISE SPECIFIED

DIMENSIONS ARE IN INCHES
TOLERANCES ON
DECIMALS: XX ± .03, XXX ± .010
ANGLES: ± 0° 30'
UNLESS OTHERWISE SPECIFIED

MODEL NO. 1051/1061/1039
NEXT ASSY
FIRST USAGE

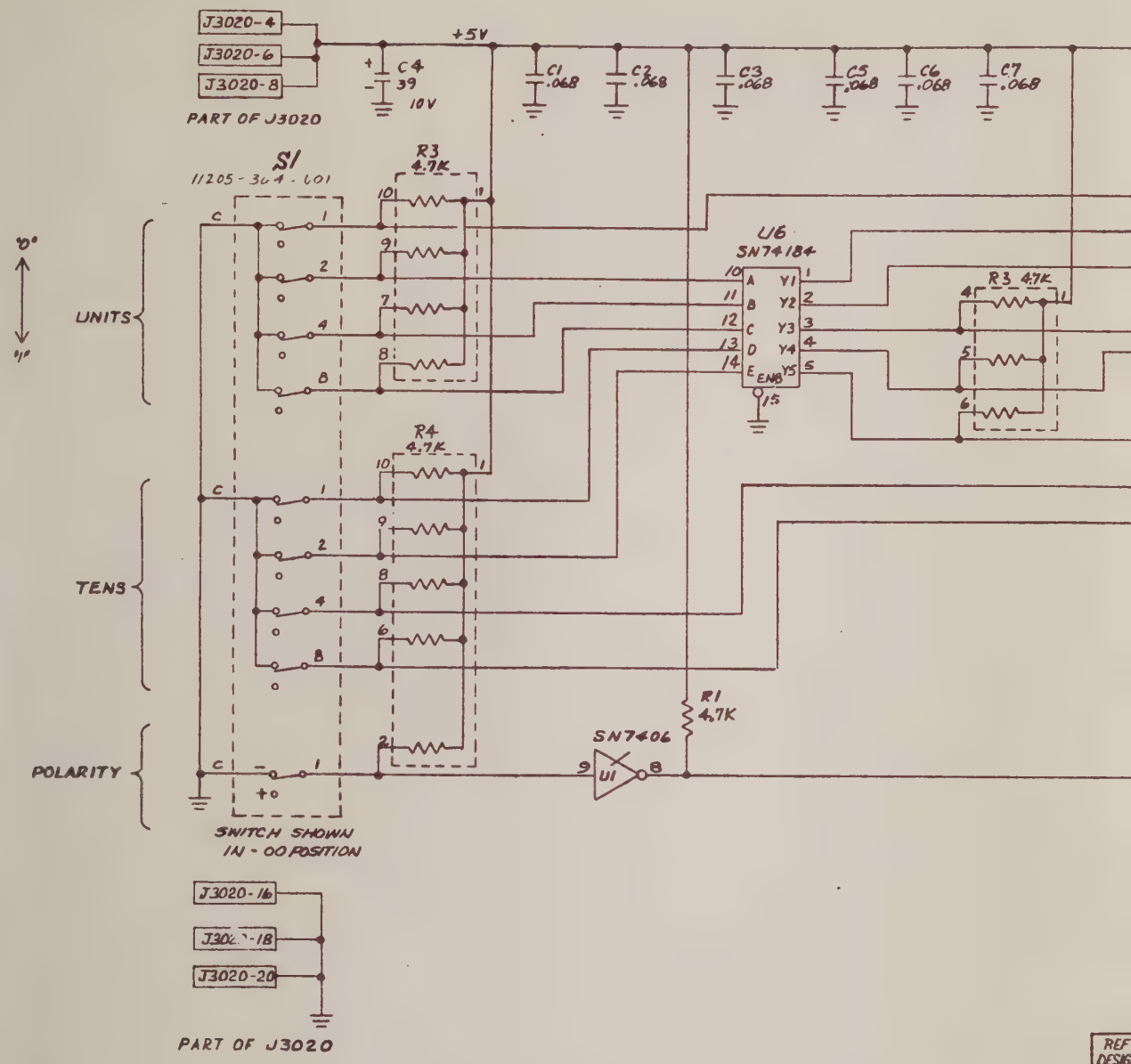
DRAWN ANDERSON 11 APR 77
CHECK [signature] 4-27-77
APPD [signature] 4-27-77
APPD
APPD
FINISH
HEAT TREAT

CALIFORNIA COMPUTER PRODUCTS INC.
☐ 1270 NORTH KRAEMER BLVD, ANAHEIM, CALIFORNIA 92806
☒ 2411 WEST LA PALMA, ANAHEIM, CALIFORNIA 92801

ASSEMBLY OPERATOR SCALE FACTOR

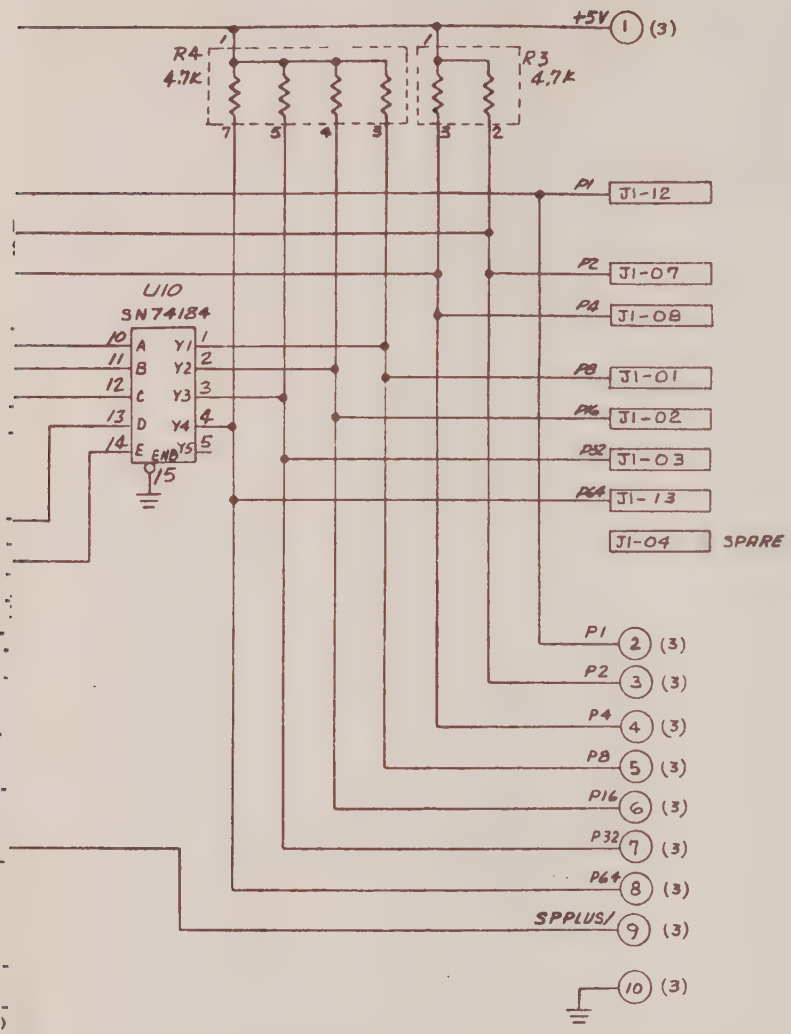
SCALE: 1/1
SIZE: D
20842-502-000
SHEET 1 OF 3

20842-502-000



REF DESIG
U1
U2
U3
U4
U5
U6
U7
U8
U9
U10
U11
U12
U13
U14
U15
U16

REVISIONS			
REV	ZONE	DESCRIPTION	DATE & APPROVAL
A		1668, 1592, Lo44	



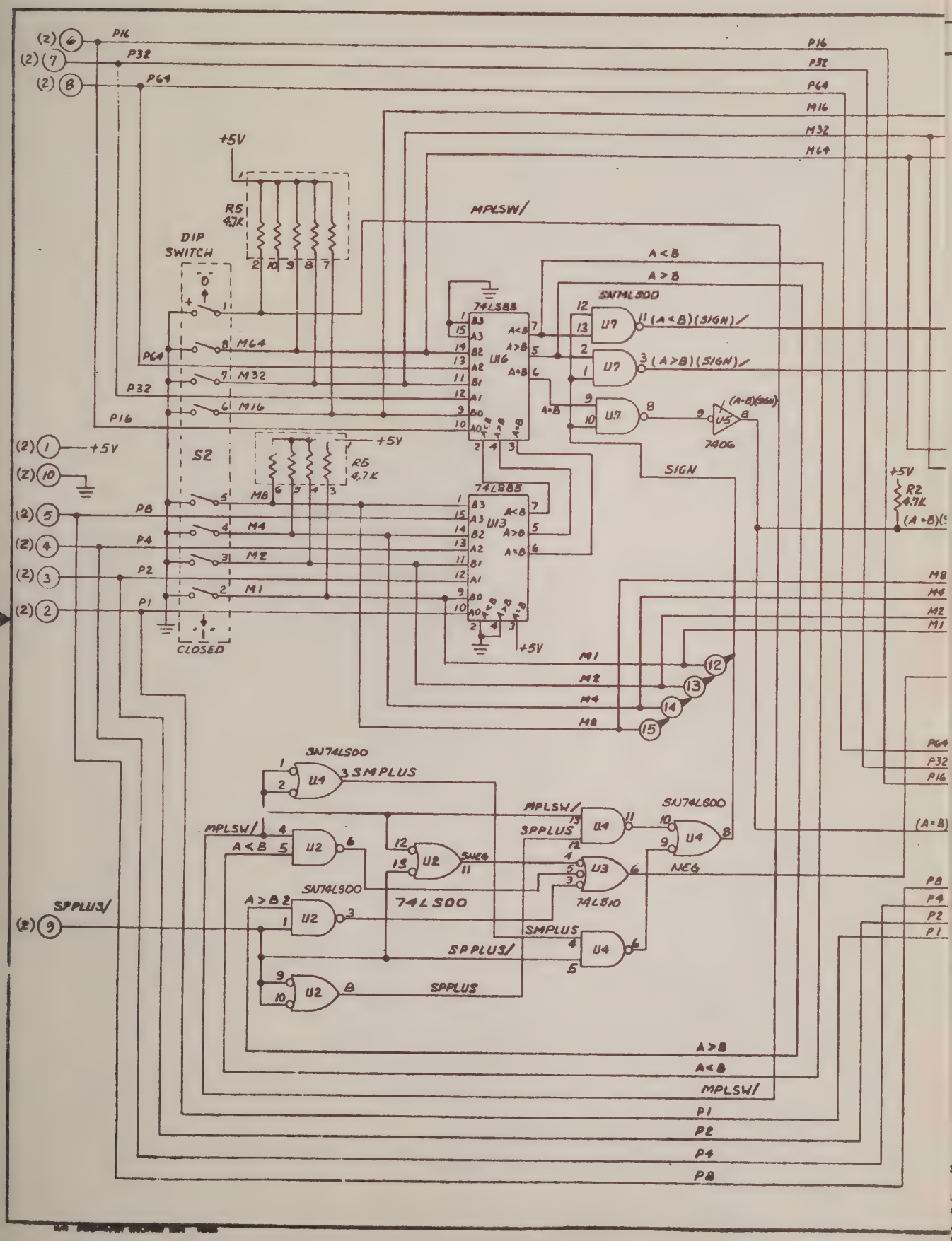
+5V	GND
14	7
14	7
14	7
14	7
14	7
16	8
14	7
16	8
16	8
16	8
14	7
14	7
16	8
14	7
14	7
16	8

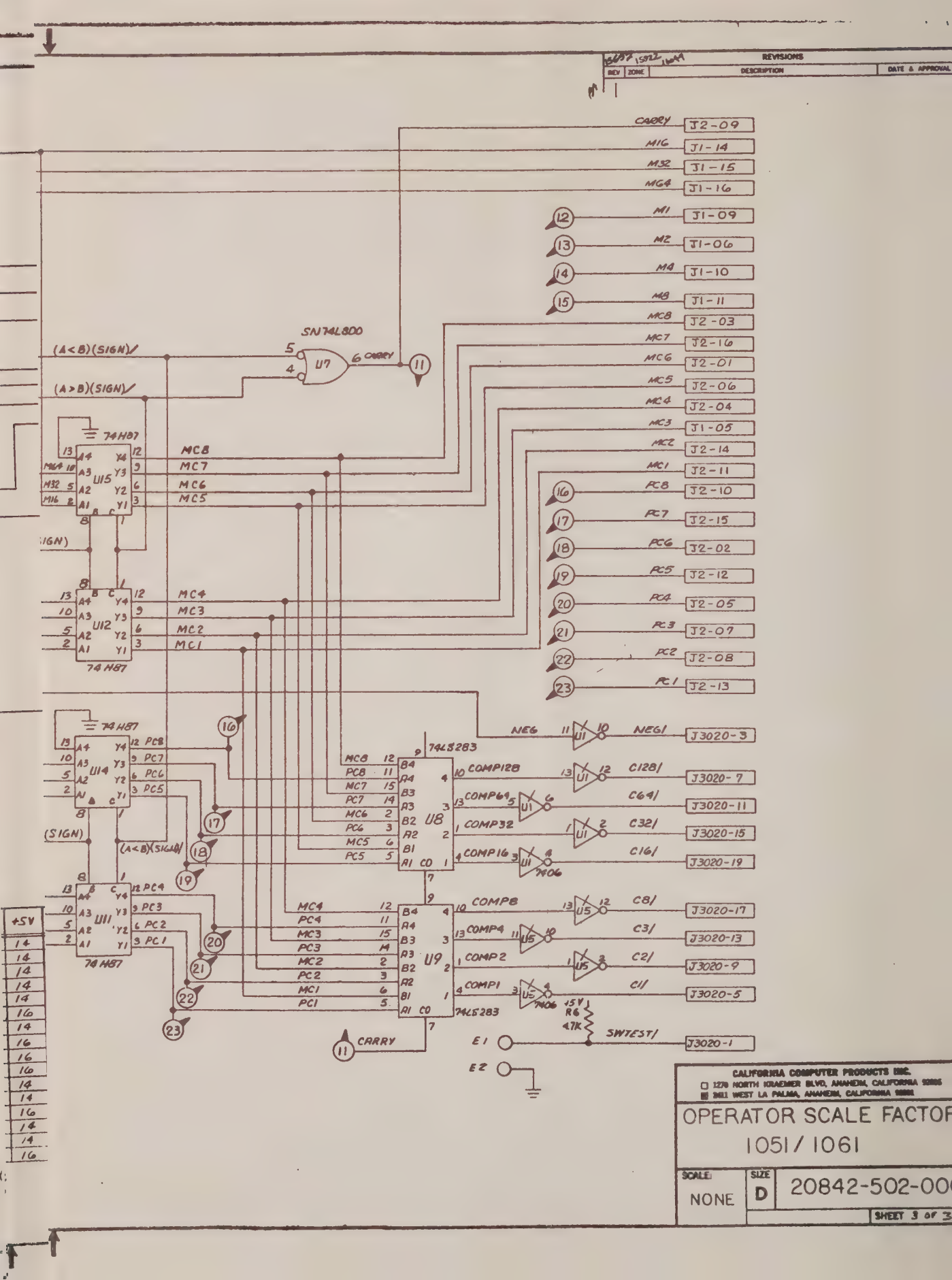
20842-502-000

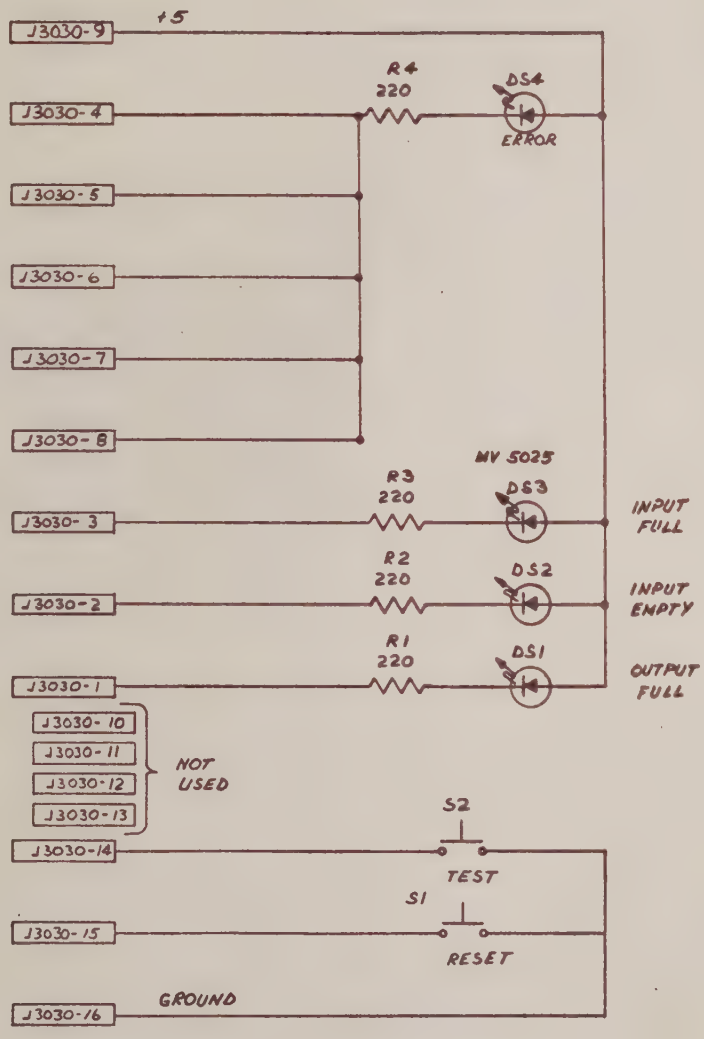
CALIFORNIA COMPUTER PRODUCTS INC.
1270 NORTH KRAEMER BLVD, ANAHEIM, CALIFORNIA 92806
2411 WEST LA PALMA, ANAHEIM, CALIFORNIA 92801

OPERATOR SCALE FACTOR 1051/ 1061

SCALE:	SIZE	
NONE	D	20842-502-000

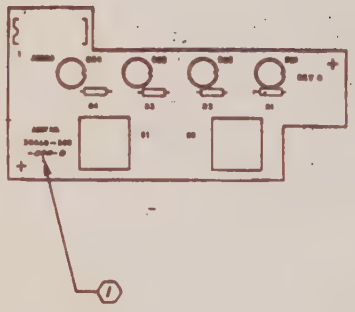

(2) 6 P16
(2) 7 P32
(2) 8 P64
+5V
R5 4.7K
DIP SWITCH
S2
CLOSED
P16
P32
P64
M16
M32
M64
MPLSW/
A<B
A>B
74LS85
U16
U13
SN74LS00
U7
(A<B)(SIGN)/
(A>B)(SIGN)/
(A=B)(SIGN)
U5
7406
SIGN
R2 4.7K
(A=B)
M8
M4
M2
M1
P8
P4
P2
P1
(2) 1 +5V
(2) 10
(2) 5
(2) 4
(2) 3
(2) 2
U4
SMPLUS
SPPLUS
SPPLUS/
SMEG
NEG
U2
U3
74LS00
74LS10
(2) 9 SPPLUS/


REVISIONS
REV | ZONE | DESCRIPTION | DATE & APPROVAL
CARRY J2-09
MIG J1-14
M32 J1-15
MG4 J1-16
M1 J1-09
M2 J1-06
M4 J1-10
M8 J1-11
MC8 J2-03
MC7 J2-16
MC6 J2-01
MC5 J2-06
MC4 J2-04
MC3 J1-05
MC2 J2-14
MC1 J2-11
PC8 J2-10
PC7 J2-15
PC6 J2-02
PC5 J2-12
PC4 J2-05
PC3 J2-07
PC2 J2-08
PC1 J2-13
SN74L800
U7
(A<B)(SIGN)/
(A>B)(SIGN)/
74H87
U15
U12
U14
U11
(SIGN)
(A<B)(SIGN)/
74LS283
U8
U9
COMP12B
COMP64
COMP32
COMP16
COMP8
COMP4
COMP2
COMP1
7406
NEG
NEG1
C128/
C64/
C32/
C16/
C8/
C3/
C2/
C1/
J3020-3
J3020-7
J3020-11
J3020-15
J3020-19
J3020-17
J3020-13
J3020-9
J3020-5
+5V
15V
R6
4.7K
SWTEST/
J3020-1
CARRY
E1
E2
CALIFORNIA COMPUTER PRODUCTS INC.
1270 NORTH KRAEMER BLVD, ANAHEIM, CALIFORNIA
2411 WEST LA PALMA, ANAHEIM, CALIFORNIA
OPERATOR SCALE FACTOR
1051/1061
SCALE: NONE
SIZE: D
20842-502-00
SHEET 3 OF 3



4 ALL DIODES ARE MV 5025 OR
3 RESISTOR VALUES ARE IN OHMS
ARE 1/4 W
2 PERFORMANCE TEST PER CCP SPE
(1) APPLY DASH NO & REV NO. USIN
CHARACTERS PER CCP SPEC. A
NOTE: UNLESS OTHERWISE SPECIFI

REVISIONS			
REV	ZONE	DESCRIPTION	DATE & APPROV
159/6			
LS O			



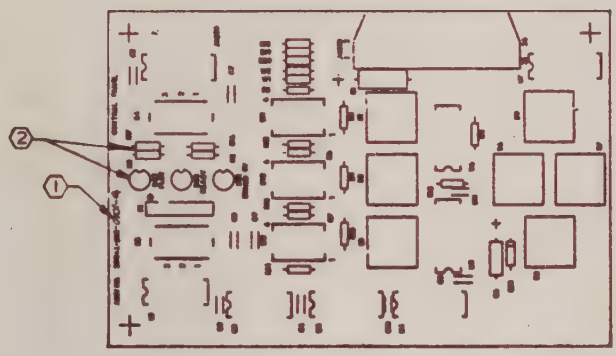
ITEM NO	QTY REQD	PART OR IDENTIFYING NO.	NOMENCLATURE OR DESCRIPTION	MATERIAL SIZE, DESCRIPTION & SPECIFICATION	ZO
11					
10	4	10503-703-001	LAMP, LED RED		DS 1, 2, 3, 4
9					
8	1	20860-512-000	PWB, OPC DISPLAY		
7					
6	4	10212-504-366	RESISTOR	220 OHM, ±5% 1/4W	R 1, 2, 3, 4
5					
4	1	50023-404-001	SOCKET, IC 16 PIN		J3030
3					
2	2	11620-304-001	BUTTON, SWITCH		S 1, 2
1	2	10429-304-001	SWITCH, PUSHBUTTON	MOM.	S 1, 2
ITEM NO	QTY REQD	PART OR IDENTIFYING NO.	NOMENCLATURE OR DESCRIPTION	MATERIAL SIZE, DESCRIPTION & SPECIFICATION	ZO
3444 50-2					
443200-1					
173390-6					
374210-3					
442690-4					
438260-2					
442230-9					
IC NO					

LIST OF MATERIAL OR PARTS LIST

EQUIVALENT
± 5% AND

C. 10505-384
BLACK
0104-001
D.

DIMENSIONS ARE IN INCHES TOLERANCES ON DECIMALS .XX ± .03, .XXX ± .010 ANGLES ± 0° 30' UNLESS OTHERWISE SPECIFIED	DRAWN JESSE	9-6-77	CALIFORNIA COMPUTER PRODUCTS INC. □ 1270 NORTH KRAEMER BLVD, ANAHEIM, CALIFORNIA 92806 ■ 2411 WEST LA PALMA, ANAHEIM, CALIFORNIA 92801
	CHECK	9-13-77	
	APPD		ASSY- OPC DISPLAY BOARD
	APPD		
	APPD		
MODEL NO. 1031, 1051, 1061	FINISH		SCALE: NONE
NEXT ASSY			SIZE D
FIRST USAGE	HEAT TREAT		20860-502-000
			SHEET 1 OF 1



DASH NO.	1
-000	4
-011	4

IC NO.	ITEM NO	-011 REQD	-000 REQD	PART OR IDENTIFYING No.	DESCRIPTION	SI
	44					
	43					
	42					
	41					
	40					
	39					
	38					
448450-7	37	1	1	20862-512-100	PRINTED BD	
	36					
	35					
286230-8	34	1	1	10372-508-000	INTEGRATED CKT	7
272580-2	33	1	1	10354-508-000	↑	U
411620-8	32	2	2	10503-508-000	↓	S
286160-7	31	2	2	10365-508-000	INTEGRATED CKT	S
	30					
	29					

LIST OF MATERIAL OR PARTS

(3) 5. FOR -000 ASSY, USE ONLY W3.
FOR -011 ASSY, USE ONLY W1 AND W2.

(2) 4. DS1-DS3, R2, R3, R11, R16, & S10 NOT USED

3. RESISTOR VALUES ARE IN OHMS ± 5% AND ARE 1/4 WATT.

(1) 2. APPLY DASH NO. AND REVISION NO. USING BLK CHARACTERS PER C.C.P. SPEC. A0104-001

1. PERFORMANCE TEST PER C.C.P. SPEC. A0505-394

NOTE: UNLESS OTHERWISE SPECIFIED

REVISIONS			
REV	ZONE	DESCRIPTION	DATE & APPROVAL
0		PRODUCTION RELEASE	
1		L/M AND F/D 10202-505-328 WAS 10202-505-300 EFFECTIVITY: F 11-28-77 L/M AND F/D 10212-504-338 WAS 10212-504-366 EFFECTIVITY: B 12-5-77	ECR'S B.C. 5448 & 5450 11-4-77 ECR 5556 11/15/77
2		1. ADDED CR5, ADDED W3 TO SCHEMATIC RUK'D REV. 2DS PER D.O. 1474 EFFECTIVITY DATE: 11-22-77, CODE B	Cg Tang 1/4/78 ECR# 5600
3		IN L/M 10212-504-532 WAS 10212-504-534 EFFECTIVITY: B 1-17-78	2-22-78 ECR 5671 ED16178
4		IN L/M DELETED PART NO 20862-512-000 ON -011 ASSY, P/N 20862-512-100 ADDED QTY 1 TO -011 ASSY EFFECTIVITY DATE 2-27 CODE F	CDJ 3-17-78 ECR 5732

NO	USED ON
3870-1	1039
7100-9	1037-1038

ITEM NO	-011 REQD	-000 REQD	PART OR IDENTIFYING NO.	NOMENCLATURE OR DESCRIPTION	MATERIAL SIZE, DESCRIPTION & SPECIFICATION	-000	-011	ZONE
28								
27	1	1	10201-506-000	DIODE	1N914	CR1	CR1	
26								
25	1	1	10205-505-250	CAPACITOR	1.0uf ±10% 35V	C6	C6	
24	9	9	10507-505-190	CAPACITOR	.068uf +50-20% 25V	C2,3,4,5,7-11	C2,3,4,5,7-11	
23	1	1	10202-505-328	CAPACITOR	39uf, ±10%, 10V	C1	C1	
22								
21								
20	1	1	10212-504-400	RESISTOR	1K ±5% ¼W	R4	R4	
19	1	1	10212-504-471		27K OHM ±5% ¼W	R15	R15	
18	1	3	10212-504-494		82K OHM ±5% ¼W	R12,13,14	R13	
17	1	3	10212-504-532		470K OHM ±5% ¼W	R8,9,10	R9	
16	1	3	10212-504-536		560K OHM ±5% ¼W	R5,6,7	R6	
15	4	4	10212-504-358	RESISTOR	150 OHM ±5% ¼W	R17-R20	R17-20	
14								
13								
12	1	1	60104-504-325	RESISTOR NET	33 OHM 2% DIP	U7	U7	
11	1	1	60108-504-432	RESISTOR NET	4.7K OHM 2% SIP	R1	R1	
10								
9	1	1	50023-404-001	SOCKET, IC 16 PIN		J4020	J4020	
8	1	1	30066-404-003	CONN HEADER 26PIN		J4010	J4010	
7								
6	1	3	10022-304-001	SWITCH	7211-J1-V3-2	S11,12,13	S12	
5	2	2	10023-304-001	SWITCH	7101-J3-V6-2	S4,5	S4,5	
4	5	7	10429-304-001	SWITCH	DC6103	S1,2,3,6-9	S2,6,7,8,9	
3								
2	2	1	11001-206-001	JUMPER, INSULATED			W1,2,3	
1								
IC NO.	-011 REQD	-000 REQD	20862-502-XXX	ASSEMBLY		-000	-011	

LIST OF MATERIAL OR PARTS LIST

	U6	U6	
9602	U5	U5	
74LS109	U3,U4	U3 4	
7400	U1,U2	U1 2	
	-000	-011	

MATERIAL SIZE, DESCRIPTION AND SPECIFICATION

LIST

DIMENSIONS ARE IN INCHES
TOLERANCES ON
DECIMALS .XX ± .03 .XXX ± .010
ANGLES ± 0° 30'
UNLESS OTHERWISE SPECIFIED

DRAWN JESSE 9-6-77
CHECK
APPD
APPD
APPD

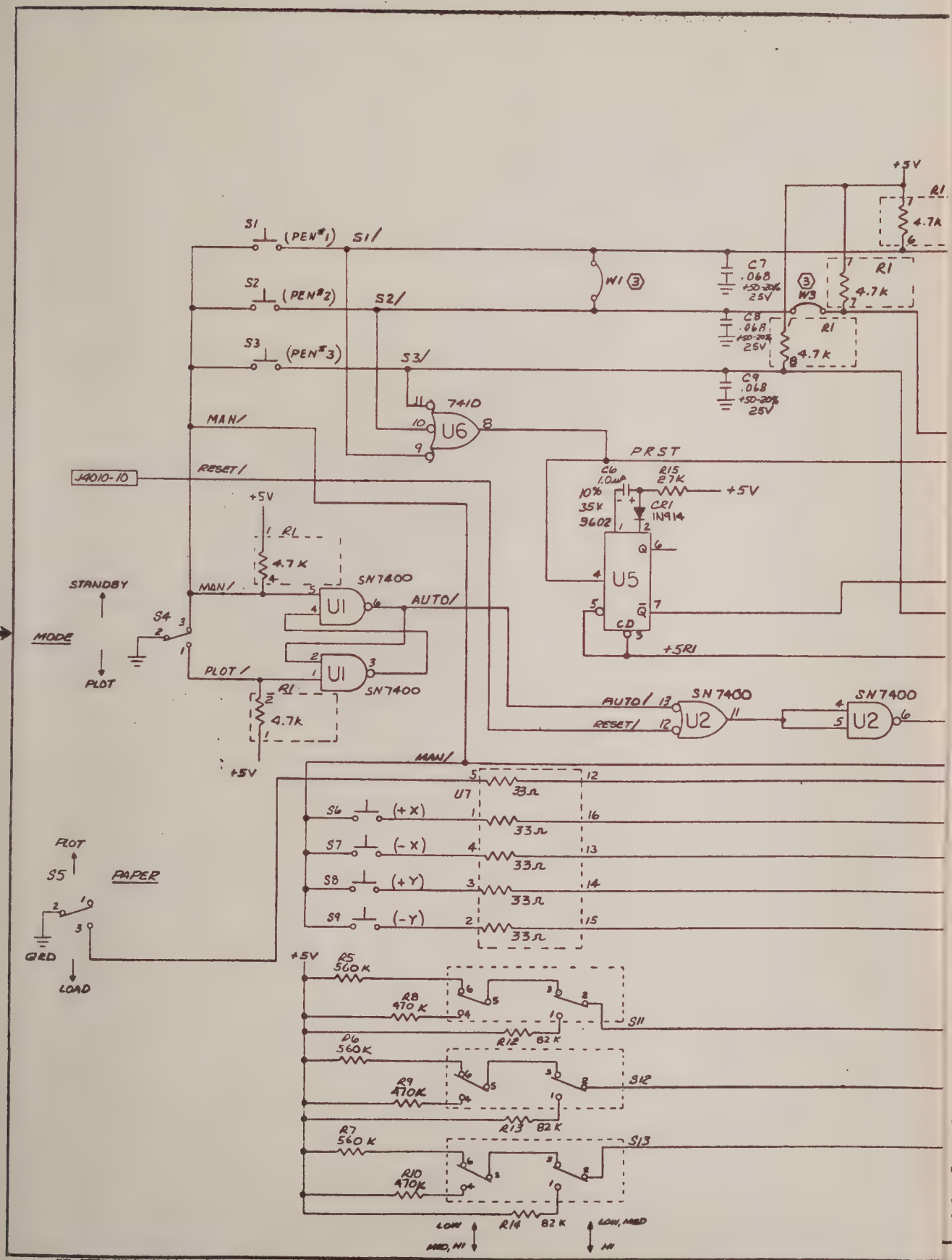
MODEL NO. 1039/1037/1038
NEXT ASSY
FIRST USAGE
FINISH
HEAT TREAT

CALIFORNIA COMPUTER PRODUCTS INC.
1270 NORTH KRAEMER BLVD, ANAHEIM, CALIFORNIA 92806
2411 WEST LA PALMA, ANAHEIM, CALIFORNIA 92801

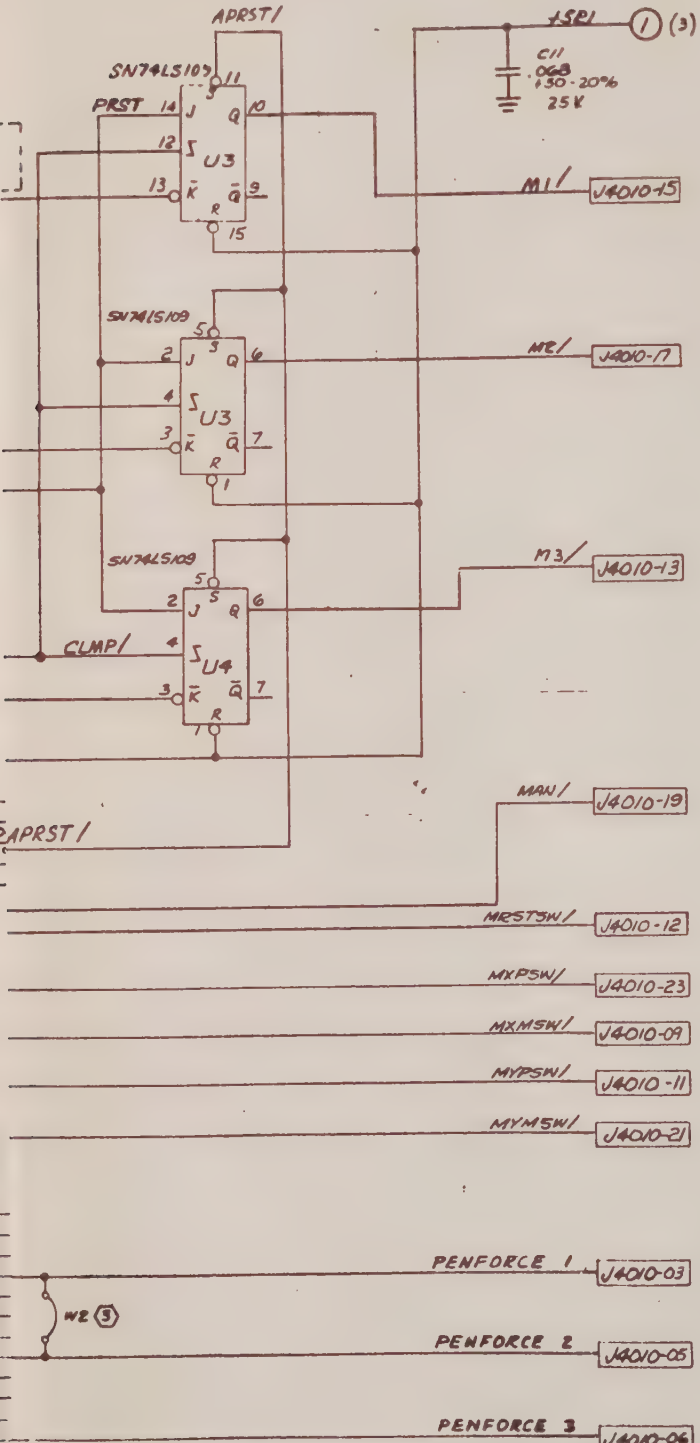
ASSEMBLY
103X CONTROL PANEL

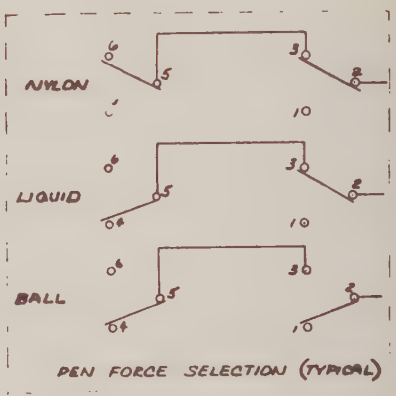
SCALE: NONE
SIZE: D
20862-502-XXX
SHEET 1 OF 3

20862-502/XX 4


S1
(PEN #1)
S1/
S2
(PEN #2)
S2/
S3
(PEN #3)
S3/
W1
C7
.068
+50-20%
25V
W3
C8
.068
+50-20%
25V
C9
.068
+50-20%
25V
R1
4.7k
+5V
7410
U6
MAN/
RESET/
J4010-10
PRST
C6
1.0uF
10%
35V
9602
R15
27K
CR1
IN914
U5
+5RI
STANDBY
MODE
PLOT
S4
SN7400
U1
AUTO/
MAN/
PLOT/
RL
4.7K
AUTO/
RESET/
U2
U7
33Ω
S6
(+X)
S7
(-X)
S8
(+Y)
S9
(-Y)
PLOT
S5
PAPER
GRD
LOAD
R5
560K
R8
470K
R12
82K
S11
R6
560K
R9
470K
R13
82K
S12
R7
560K
R10
470K
R14
82K
S13
LOW
MED, HI
LOW, MED
HI

REVISIONS			
REV	ZONE	DESCRIPTION	DATE & APPROV
3		SEE SHT ONE FOR REVISION	
4		SEE SHT ONE FOR REVISION	





PEN FORCE SELECTION (TYPICAL)

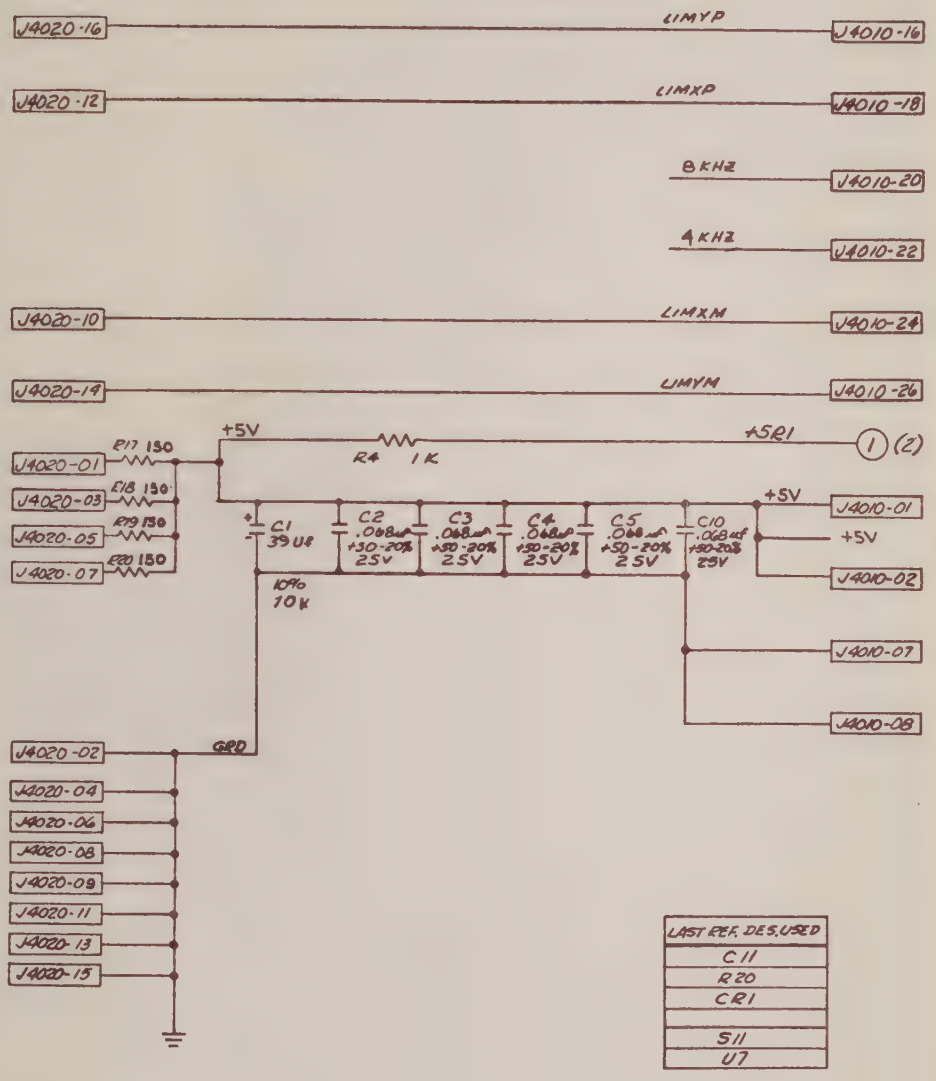
REF DES	+5V	GRD
U1	14	7
U2	14	7
U3	16	8
U4	16	8
U5	16	8
U6	14	7

CALIFORNIA COMPUTER PRODUCTS INC.
☐ 1270 NORTH KRAEMER BLVD, ANAHEIM, CALIFORNIA 92806
■ 2411 WEST LA PALMA, ANAHEIM, CALIFORNIA 92801

ASSEMBLY
103X CONTROL PANEL

SCALE:	SIZE	
NONE	D	20862-502-XX

SHEET 2 OF



LAST REF. DES. USED
C11
R20
CR1
S11
U7

REVISIONS			
REV	ECO	DESCRIPTION	DATE & APPROVAL
3		SEE SHT ONE FOR REVISION	
4		SEE SHT ONE FOR REVISION	

CALIFORNIA COMPUTER PRODUCTS INC.
1270 NORTH KRAEMER BLVD, ANAHEIM, CALIFORNIA 92806
3411 WEST LA PALMA, ANAHEIM, CALIFORNIA 92801

ASSEMBLY
103X CONTROL PANEL

SCALE:	SIZE	
NONE	D	20862-502-XXX

SHEET 3 OF 3

	119				
448300-4	118	4	14403-204-000	SPACER	
448290-7	117	1	14400-204-000	HEAT SINK	
173630-5	116	4	50003-206-208	NUT, HEX SMALL	4-40
030060-8	115	4	74007-206-071	WASHER, SPLIT LOCK	#4
149140-6	114	4	74002-206-071	WASHER, FLAT THIN	#4
151810-9	113	4	60010-206-217	SCREW, PAN HD	#4-40 x
029640-0	112	6	60010-206-249	SCREW, PAN HD	#6-32 x
029620-2	111	6	60010-206-247	SCREW, PAN HD	#6-32 x
163750-3	110	12	74002-206-111	WASHER, FLAT THIN	#6
030010-3	109	12	74005-206-111	WASHER, INTERNAL TOOTH	#6
173620-4	108	12	50003-206-212	NUT, HEX SMALL	6-32
	107				
	106				
403840-4	105	2	5081-508-000		CD 4051
	104				
	103				
292610-7	102	1	30107-508-000	INTEGRATED CIRCUIT	LM 311
411780-0	101	5	10508-508-000		74L
366490-1	100	2	30311-508-000		NE555
272580-7	99	5	30307-508-000		741
411540-8	98	3	10494-508-000		74L
416290-5	97	2	10528-508-000		74LS
411620-8	96	6	10503-508-000		74L
411510-1	95	4	10491-508-000		74LS
416130-8	94	2	10525-508-000		74LS
272580-2	93	6	10354-508-000		U6B96
409780-4	92	10	10486-508-000		74LS
397100-6	91	4	30316-508-000		MC 330
408730-0	90	1	10485-508-000	INTEGRATED CIRCUIT	74LS
	89				
	88				
357880-4	87	2	20308-507-000	TRANSISTOR	MJE 700
357870-5	86	2	20413-507-000		MJE 800
397680-0	85	3	20420-507-000		2N 6057
397670-1	84	3	20317-507-000		2N 6050
003840-4	83	5	10304-507-000		2N 3445
003810-9	82	5	10404-507-000	TRANSISTOR	2N 3566
	81				
374210-3	80	1	50023-408-001	SOCKET, I.C. 16 PIN	
341750-8	79	2	50016-408-101	SOCKET, I.C. 16 PIN	
033690-9	78	6	10201-506-000	DIODE	IN 914
	77				
	76				
	75				
258090-9	74	1	10503-505-525	CAPACITOR	.33 uf ±10
000550-4	73	2	10204-505-308	CAPACITOR	15 mf ±
239840-2	72	4	10503-505-462		.047 mf
328440-3	71	1	10503-505-516		.22 mf ±
352250-5	70	1	10503-505-535		.47 mf ±
406060-7	69	1	10204-505-250		1 mf ± 10
073690-0	68	6	10204-505-325		33 mf ± 1
226070-1	67	5	10503-505-500		.1 mf ± 5
277800-9	66	2	10503-505-466		.082 mf ± 1
000540-5	65	3	10104-505-266		2.2 mf ±
303430-1	64	27	10507-505-190		.068 mf +5
318290-4	63	2	10503-505-458		.015 mf ±
033370-8	62	7	10502-505-394		820 pf ± 1
226310-5	61	17	10502-505-450	CAPACITOR	.01 mf ± 1
277820-7	60	1	10316-505-200	CAPACITOR	0.1 mf ± 1
	59				
447440-9	58	1	10806-308-001	SWITCH, SLIDE	MSS104D
	57				
444330-5	56	2	40212-504-500	POTENTIOMETER	500K OHM
444340-4	55	3	40212-504-450	POTENTIOMETER	50K OHM
444360-2	54	3	40212-504-400	POTENTIOMETER	1K OHM
444350-3	53	1	40213-504-434	POTENTIOMETER	5K OHM
109210-6	52	1	10212-504-486	RESISTOR	56.2 OHM
108950-7	51	1	10212-504-454	RESISTOR	12K OHM
445000-3	50	2	60103-504-466	RESISTOR, SIP, 8PIN	22K OHM
173390-6	49	3	10212-504-366	RESISTOR	220 OHM
002940-5	48	1	10241-504-358		150 OHM
116080-6	47	1	10212-504-521		270K OHM
131150-5	46	1	10212-504-462		18M OHM
107160-2	45	1	10213-504-682		47K OHM
116940-8	44	6	10611-504-544		820K OHM
	43				
116610-1	42	1	10212-504-371		330 OHM
109010-4	41	1	10212-504-471	RESISTOR	470 OHM
416025-7	40	3	50016-504-980		100 OHM

LAST REF DES. USED
K3
R96
C82
CR10
Q20
U53
TP12
S4
W2

(6) 10. DO NOT INSTALL
(5) 9. INSTALL PER C.C.P. SPEC. A0305-002-10.3
(4) 8. INSTALL PER C.C.P. SPEC. A0305-002-9.1
(3) 7. TO BE SELECTED AT FUNCTIONAL TEST
(2) 6. W1 NORMALLY USED, W2 USED WHEN RDY/ IS MORE NEGATIVE THAN -15V
5. RESISTOR VALUES ARE IN OHMS ±5% AND ARE 1/4 WATT
4. CAPACITOR VALUES ARE IN MICROFARADS ±10% AND ARE RATED AT 100 VOLTS
3. REF. DES. NOT USED C5, C6, C51, C58, S2, S3, CR2, 3, 4, 6.
(1) 2. APPLY DASH NO. AND REVISION NO. USING BLACK CHARACTERS PER C.C.P. SPEC. A0104-001
1. PERFORMANCE TEST PER C.C.P. SPEC. A0503-396
NOTE: UNLESS OTHERWISE SPECIFIED

12 outstanding
EO 11863

REVISIONS			
REV	ZONE	DESCRIPTION	DATE & APPROVAL
0		INITIAL RELEASE	
1		P/N 10201-506-000 QTY IS 6 WAS 9. REVISED CIRCUITRY PER ECR. ADDED P/N 74007-206-001 QTY 4 EFFECTIVITY DATE: 11-14-77 CODE B ADDED .068 CAPACITOR TO CIRCUITRY PER ECR # 5593. P/N 10507-505-190 QTY 27 WAS 26 EFFECTIVITY DATE: 12-19-77, CODE B	ECR # 5593 5593 5593

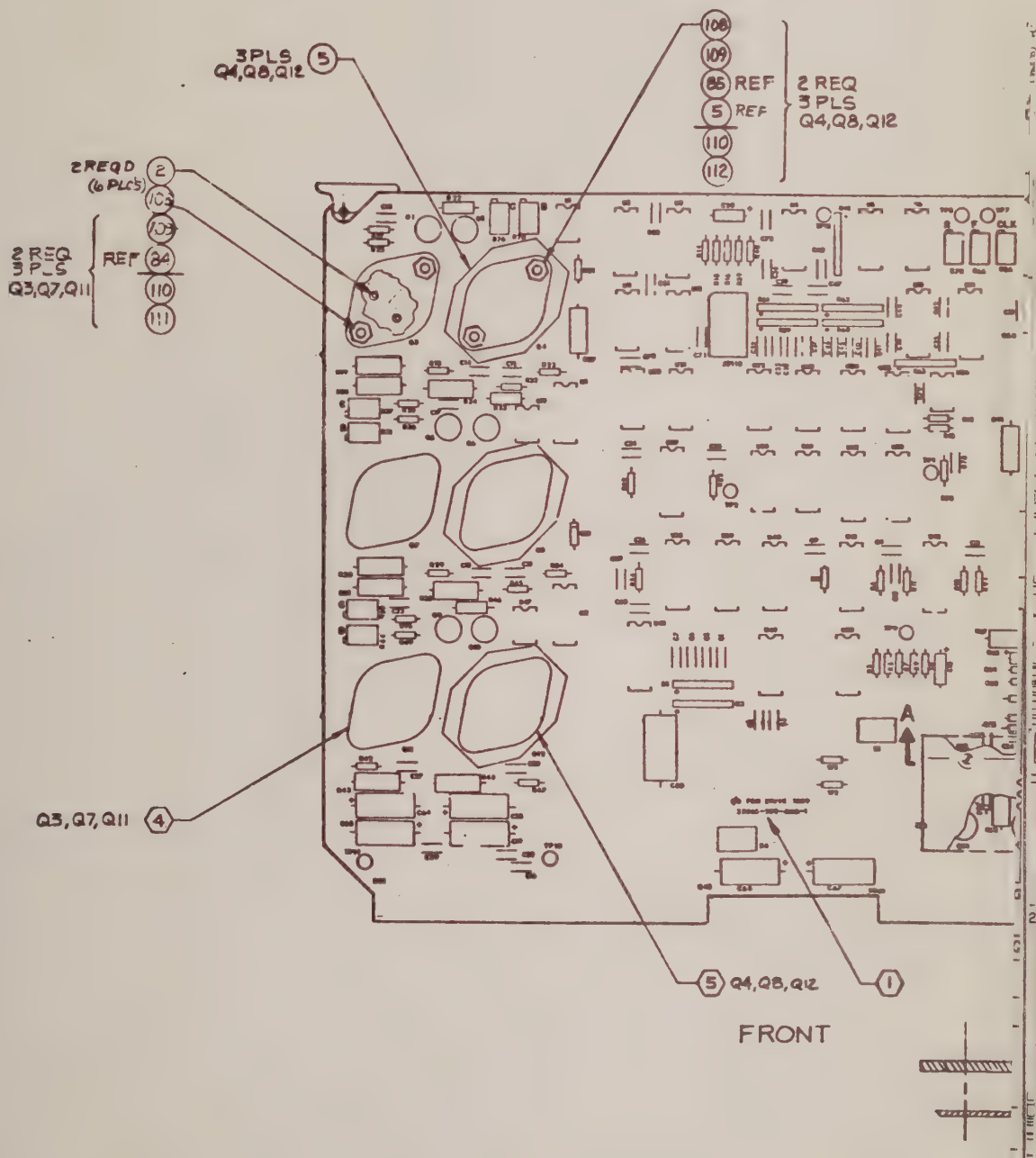
15950 16154 11863

077000-8	39	3	13505-206-010	JACK, VERTICAL, BLK		TP10, TP11, TP12
207240-3	38	1	13505-206-009	WHT		TP9
272170-2	37	1	13505-206-008	GRY		TP8
344270-4	36	1	13505-206-007	VIO		TP7
247400-5	35	1	13505-206-006	BLU		TP6
272160-3	34	1	13505-206-005	GRN		TP5
064400-9	33	1	13505-206-004	YEL		TP4
064400-0	32	1	13505-206-003	ORG		TP3
064280-4	31	1	13505-206-002	RED		TP2
366420-8	30	1	13505-206-001	JACK, VERTICAL, BRN		TP1
	29					
	28					
408630-5	27	2	60300-804-464	THERMISTOR	20K OHM	R69 R79
109100-8	26	2	10212-504-478	RESISTOR	33K OHM ±5% ¼W	R68, 80
079540-1	25	1	10212-504-466		1M OHM ±5% ¼W	R39
231040-7	24	1	10212-504-384		510 OHM ±5% ¼W	R40
131420-8	23	1	10212-504-469		68M OHM ±5% ¼W	R89
002510-6	22	3	10222-504-400		1K OHM ±5% ½W	R22, 33, 46
003210-2	21	13	10501-504-218	WW	24 OHM ±5% 2W	R29, 34, 27, 34, 35, 38, 40, 48, 52, 71, 77, 83, 84
079630-0	20	4	10212-504-450		10M OHM ±5% ¼W	R17, 28, 86, 95
108900-2	19	4	10212-504-500		100K OHM ±5% ¼W	R16, 75, 85, 96
140910-1	18	1	10212-504-512		820K OHM ±5% ¼W	R15
116920-0	17	1	10212-504-536		560K OHM ±5% ¼W	R14
079570-8	16	4	10212-504-412		1.8K OHM ±5% ½W	R9, 25, 36, 49
079530-2	15	2	10212-504-390		680 OHM ±5% ¼W	R8, 58
109170-1	14	1	10212-504-332		47 OHM ±5% ¼W	R7
131140-6	13	2	10212-504-458		15M OHM ±5% ¼W	R6, 54
188870-0	12	3	10212-504-464		20M OHM ±5% ¼W	R4, 10, 11
109050-5	11	2	10212-504-466		22M OHM ±5% ¼W	R3, 5
079520-3	10	6	10212-504-382		470 OHM ±5% ¼W	R12, 21, 32, 45, 70, 82
109180-0	9	8	10212-504-482	RESISTOR	4.7K OHM ±5% ¼W	R13, 18, 23, 29, 34, 42, 47, 74
432910-8	8	1	60108-504-432	RESISTOR, SIP, 8PIN	6.7K OHM ±2% .5W	R55
440830-8	7	3	60116-504-432	RESISTOR, SIP, 8PIN	6.7K OHM ±2% .3W	R1, 59, 60
405640-4	6	3	20416-304-001	RELAY, REED		K1, 2, 3
447870-3	5	3	10528-206-000	HEAT SINK		REF (Q4, 8, 12)
336270-4	4	2	37012-206-009	EJECTOR, PCB		
142000-9	3	4	11001-206-001	JUMPER		W1
397230-4	2	12	12536-206-000	SOCKET, COMP. LEAD		REF (U3, 4, 7, 8, 11, 12)
449768-4	1	1	20865-93-000	PRINTED BD.		
441950-3	ITEM NO	REQD	20865-502-000	ASSEMBLY		
I.C. NUMBER			PART OR IDENTIFYING NO.	NOMENCLATURE OR DESCRIPTION	MATERIAL SIZE, DESCRIPTION & SPECIFICATION	ZONE

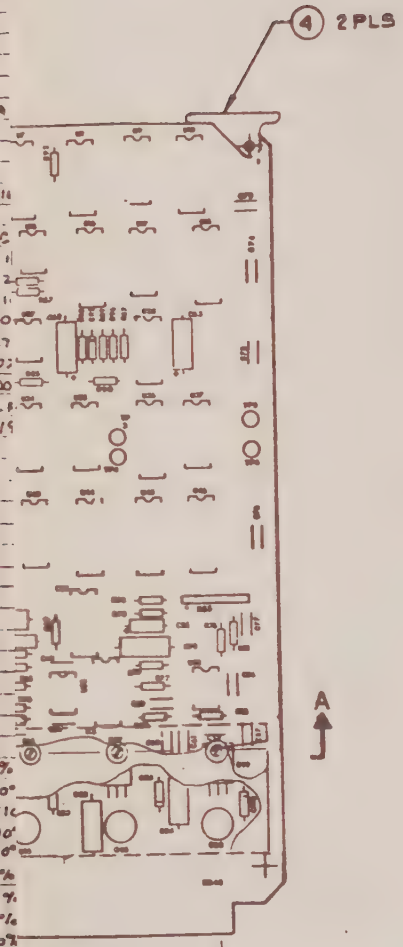
LIST OF MATERIAL OR PARTS LIST

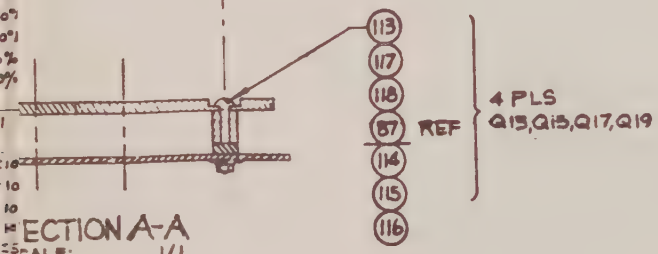
DIMENSIONS ARE IN INCHES TOLERANCES ON DECIMALS .XX ± .03 .XXX ± .010 ANGLES ± 0° 30'	DRAWN C. G. TANZO	10-4-77	CALIFORNIA COMPUTER PRODUCTS INC. 1270 NORTH KRAEMER BLVD. ANAHEIM, CALIFORNIA 92806 2411 WEST LA PALMA ANAHEIM, CALIFORNIA 92801
	CHECK C. D. Jones	10-5-77	
	APPD		ASSY- I/O PEN DRIVE
	APPD		
	APPD		
UNLESS OTHERWISE SPECIFIED			
MODEL NO. 1037, 1038, 1039	FINISH		SCALE: SIZE D 20865-502-000
NEXT ASSY	HEAT TREAT		SHEET 1 OF 7

U2, U3
U26
U7, 10, 18, 36, 45
U5, 27
U1, 19, 47, 52, 53
U11, 12, 24
U30, 31
U8, 14, 32, 33, 39, 44
U17, 21, 23, 43
U20, 46
U13, 14, 29, 38, 41, 42
U5, 6, 9, 20, 22, 25, 34, 35, 37, 50
U4, 28, 49, 51
U48
Q15, 19
Q13, 17
Q4, 8, 12
Q3, 7, 11
Q1, 2, 10, 16, 20
Q5, 9, 14, 18
J210
REF U2, U3
C1, 3, 5, 7, 8, 9, 10
C24
C62, 63
C35 36, 43, 44
C26
C25
C20
C19, 28, 64, 65, 66, 67
C16, 22, 29, 54, 61
C11, 12
C30, 48, 55
C 14 15 23 27 31 39 45 49 52 56 57 58 59 60 78, 81, 82, 83
C4, 9
C1, 2, 6, 7, 13, 17, 21, 33, 35, 37, 38, 40, 41, 45, 46, 51, 59
C 80
S1
R 78, 86
R 20, 31, 44
R 26, 37, 50
R 56
R 53
R 75
R 41, 63
R 92, 93, 94
R 91
R 90
R 88
R 87
R 4, 63, 69, 76, 77, 91
R 97
R 98
R 72, 73, 74


3PLS
Q4,Q8,Q12
5
2REQD
(6PLCS)
2
10
13
2 REQ
3 PLS
Q3,Q7,Q11
REF
84
110
111
Q3,Q7,Q11
4
108
109
85
REF
5
REF
110
112
2 REQ
3 PLS
Q4,Q8,Q12
A
5
Q4,Q8,Q12
1
FRONT

REVISIONS			
REV	ZONE	DESCRIPTION	DATE & APPR



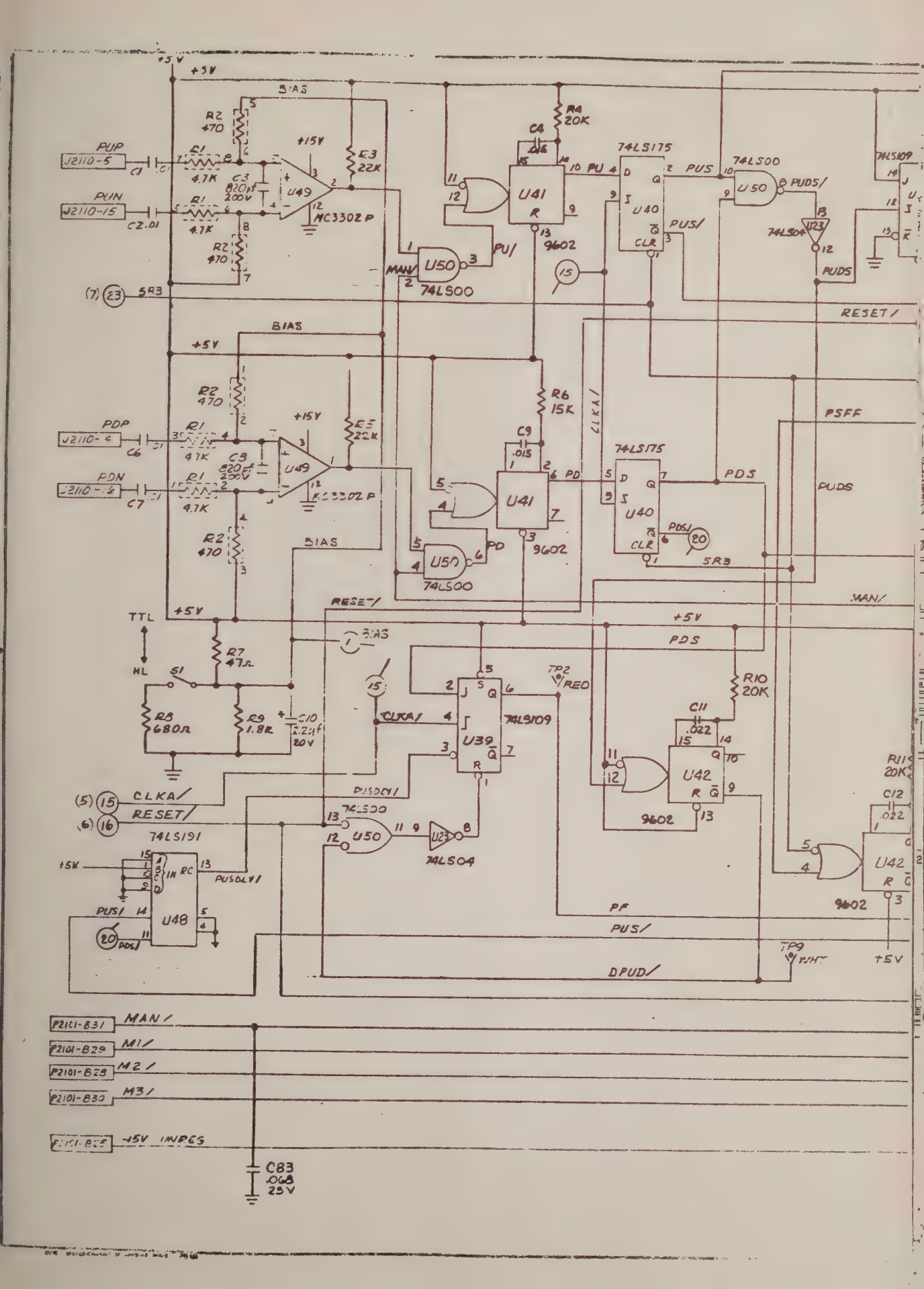


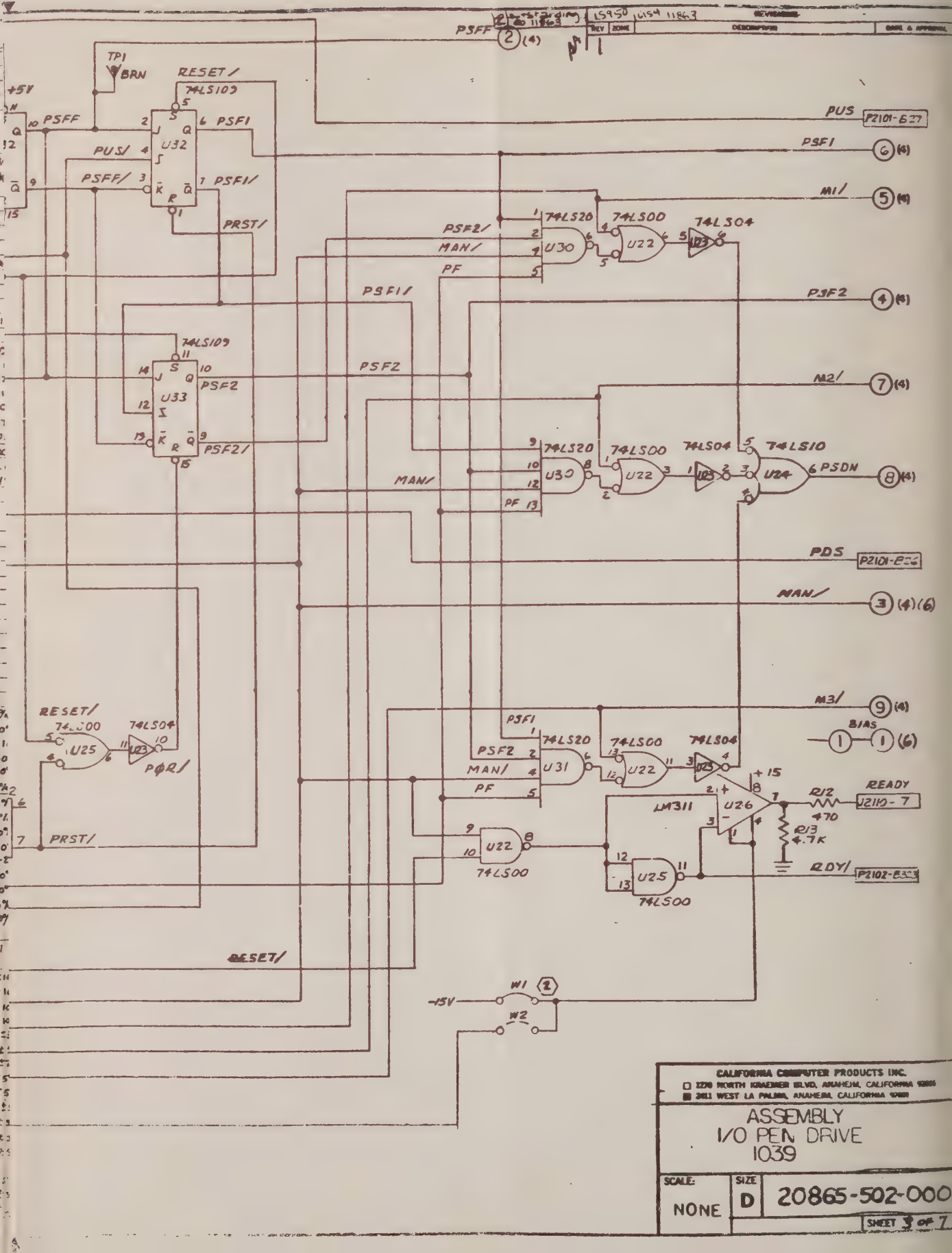
SECTION A-A
SCALE: 1/1

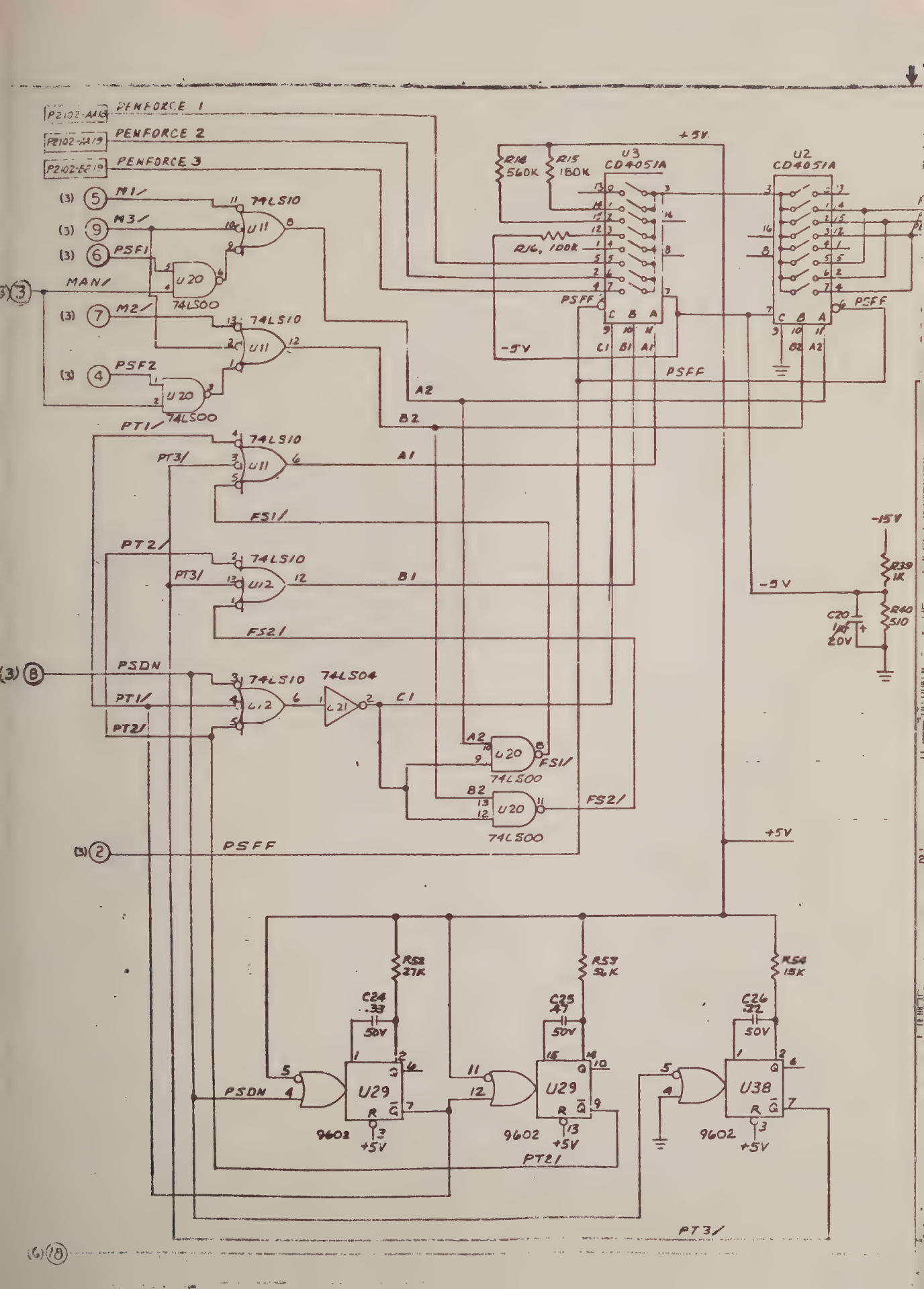
CALIFORNIA COMPUTER PRODUCTS INC.
2210 NORTH BRACHER BLVD, ANAHEIM, CALIFORNIA
2611 WEST LA PALMA, ANAHEIM, CALIFORNIA

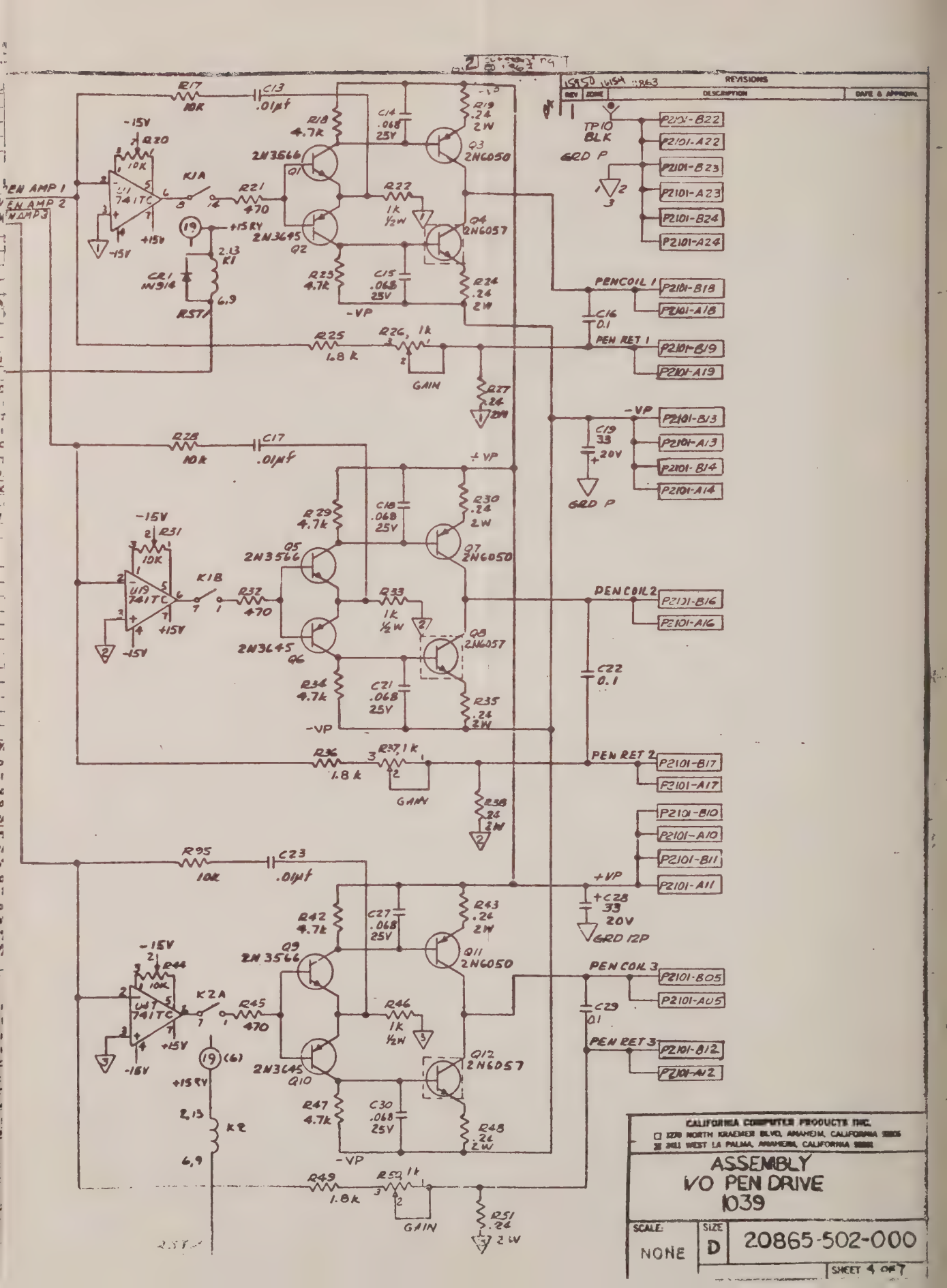
ASSEMBLY
I/O PEN DRIVE

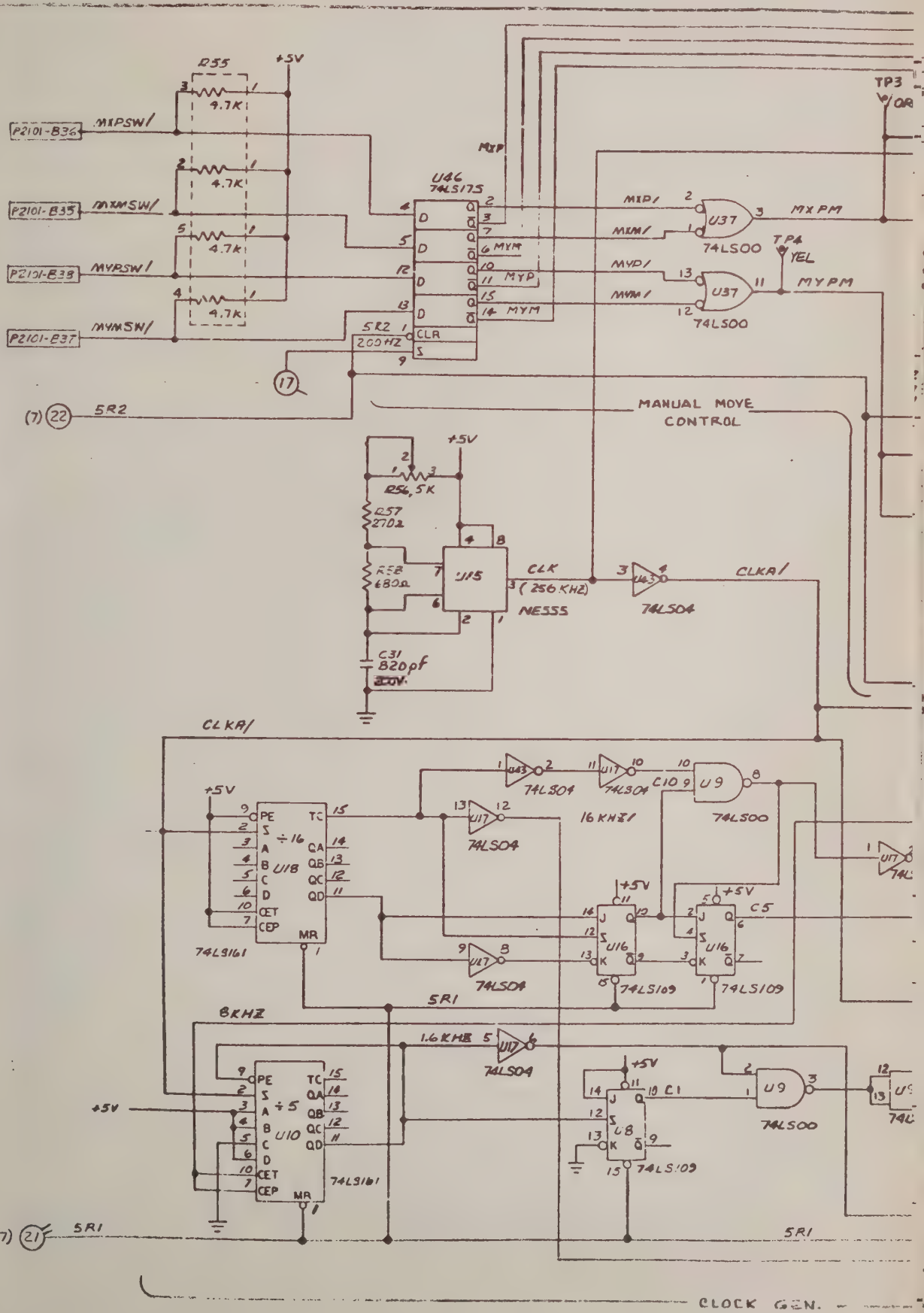
SCALE:	SIZE	
1/1	D	20865-502-0
		SHEET 2

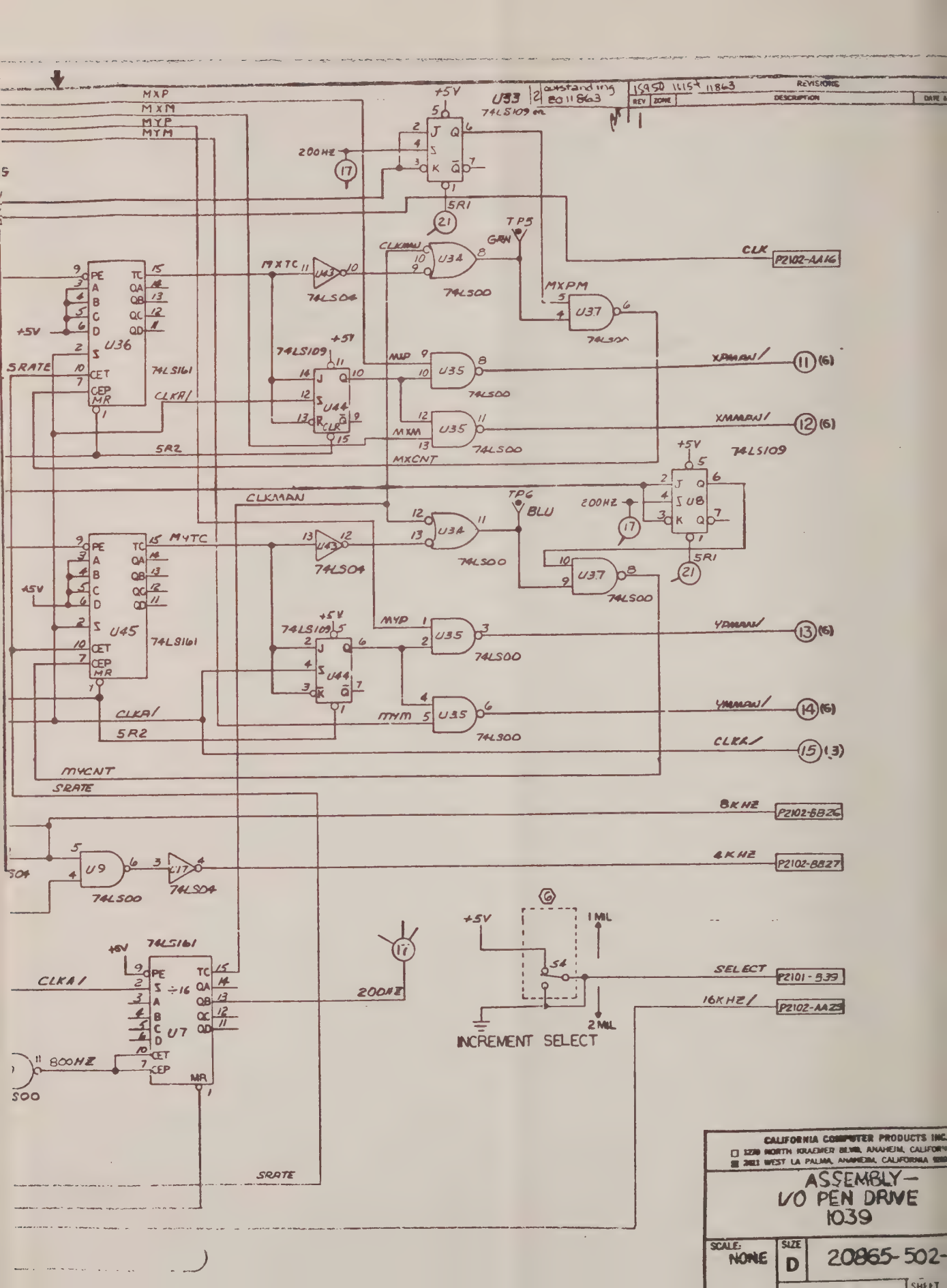

+5V
BIAS
R2 470
R1 4.7K
C3 820pf 200V
U49
MC3302P
E3 22K
+15V
PUP
J2110-5
C1
PUIN
J2110-15
C2.01
(7) (23) SR3
R4 20K
C4 .015
U41
9602
U50
74LS00
PU/
MAN/
74LS175
U40
PU 4
PUS
PUS/
74LS00
PUDS/
74LS04
PUDS
RESET/
PDP
J2110-4
C6
PDN
J2110-16
C7
R6 15K
C9 .015
PD
PDS
PDS/
20
5R3
CLKA/
PSFF
TTL
HL
S1
R7 47Ω
R8 680Ω
R9 1.8K
C10 2.2μf 20V
TP2 REO
74LS109
U39
CLKA/
RESET/
74LS191
U48
PUSDLY/
PUS1
M
PDS1
C11 .022
R10 20K
U42
9602
C12 .022
R11 20K
PF
PUS/
TP9 MAN
DPUD/
P2101-B31 MAN/
P2101-B29 M1/
P2101-B28 M2/
P2101-B30 M3/
P2101-B26 +5V INPBS
C83 .068 25V

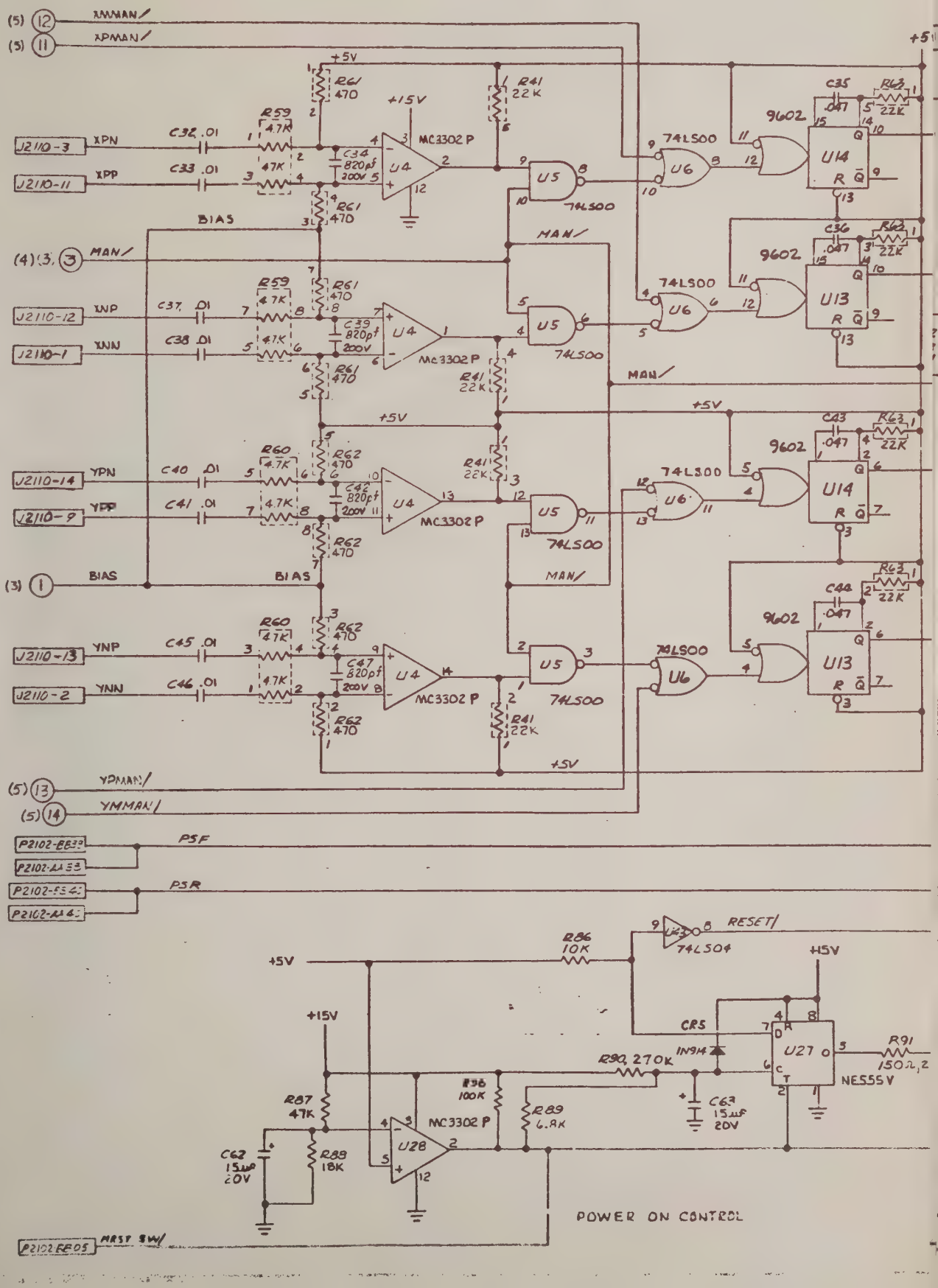

PSFF
TP1
BRN
RESET/
74LS109
U32
PUS/
PSFF/
PSF1
PSF1/
PRST/
PUS
P2101-E27
PSF1
MI/
74LS20
74LS00
74LS04
U30
U22
PSF2/
MAN/
PF
PSF1/
PSF2
M2/
74LS109
U33
74LS10
U24
PSDN
MAN/
PDS
P2101-E26
M3/
BIAS
RESET/
U25
PØR/
PRST/
U31
+15
LM311
U26
READY
R12
470
R13
4.7K
RDY/
P2102-E33
RESET/
W1
W2
-15V
CALIFORNIA COMPUTER PRODUCTS INC.
1220 NORTH KRAEMER BLVD, ANAHEIM, CALIFORNIA 92805
2611 WEST LA PALMA, ANAHEIM, CALIFORNIA 92801
ASSEMBLY
I/O PEN DRIVE
1039
SCALE: NONE
SIZE D
20865-502-000
SHEET 3 OF 7

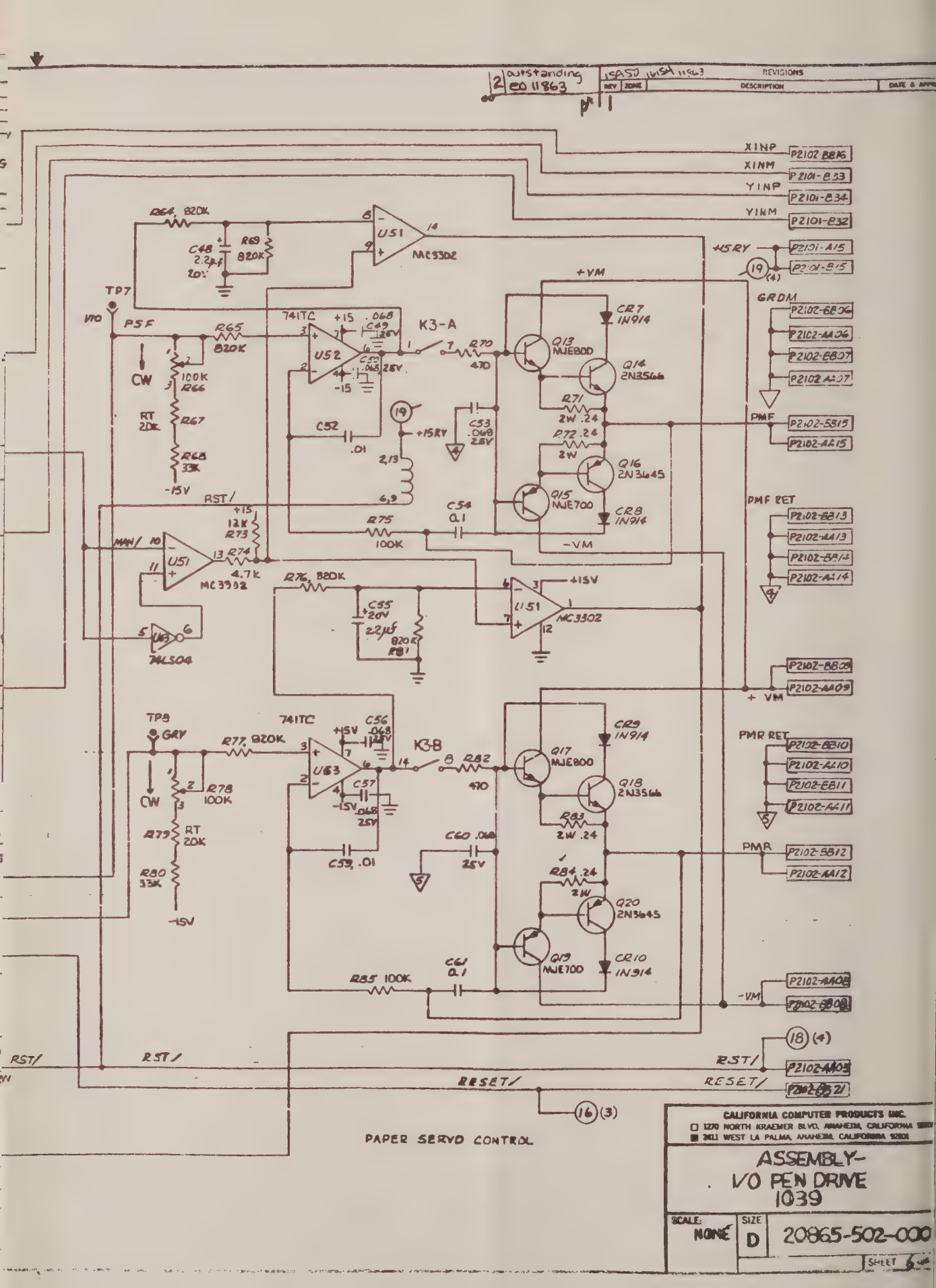

P2102-AA18
PENFORCE 1
P2102-AA19
PENFORCE 2
P2102-EE19
PENFORCE 3
(3) 5 M1/
(3) 9 M3/
(3) 6 PSF1
MAN/
(3) 3
(3) 7 M2/
(3) 4 PSF2
74LS10
U11
U20
74LS00
PT1/
PT3/
PT2/
PT3/
U12
PSDN
(3) 8
74LS04
U21
C1
A2
B2
A1
B1
FS1/
FS2/
74L500
(3) 2 PSFF
+5V
-5V
R14 560K
R15 180K
R16, 100K
U3 CD4051A
U2 CD4051A
-15V
R39 1K
R40 510
C20 1µF 20V
R52 27K
R53 5.6K
R54 15K
C24 .33 50V
C25 .47 50V
C26 .22 50V
U29
U38
9602
PT2/
PT3/
(6) 18

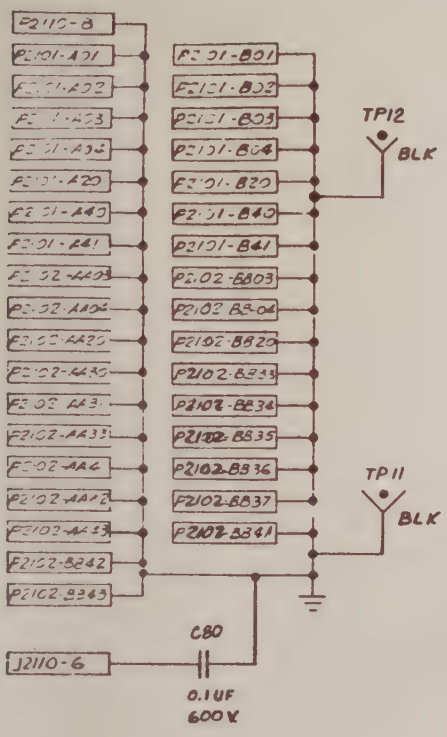

REVISIONS
REV | ZONE | DESCRIPTION | DATE & APPROVAL
PEN AMP 1
PEN AMP 2
PEN AMP 3
R17 10K
C13 .01µf
R18 4.7k
C14 .068 25V
R19 .24 2W
Q3 2N6050
2N3646 Q1
R22 1k ½W
Q4 2N6057
2N3645 Q2
R23 4.7k
C15 .068 25V
R24 .24 2W
-VP
R20 10K
U11 741TC
K1A
R21 470
+15V
-15V
2.13 K1
6.9
CR1 IN914
RST1
R25 1.8 k
R26, 1k GAIN
R27 .24 2W
TP10 BLK
GRD P
P2101-B22
P2101-A22
P2101-B23
P2101-A23
P2101-B24
P2101-A24
PENCOIL 1
P2101-B18
P2101-A18
C16 0.1
PEN RET 1
P2101-B19
P2101-A19
-VP
P2101-B13
P2101-A13
C19 33 20V
P2101-B14
P2101-A14
GRD P
R28 10K
C17 .01µf
+VP
R29 4.7k
C18 .068 25V
R30 .24 2W
Q5 2N3646
Q7 2N6050
R31 10K
U13 741TC
K1B
R37 470
R33 1k ½W
Q8 2N6057
2N3645 Q6
R34 4.7k
C21 .068 25V
R35 .24 2W
-VP
R36 1.8 k
R37, 1 k GAIN
R38 .24 2W
PEN COIL 2
P2101-B16
P2101-A16
C22 0.1
PEN RET 2
P2101-B17
P2101-A17
P2101-B10
P2101-A10
P2101-B11
P2101-A11
+VP
+C28 33 20V
GRD P2P
R95 10K
C23 .01µf
R42 4.7k
C27 .068 25V
R43 .24 2W
Q9 2N3646
Q11 2N6050
R44 10K
U17 741TC
K2A
R45 470
R46 1k ½W
Q12 2N6057
2N3645 Q10
R47 4.7k
C30 .068 25V
R48 .24 2W
-VP
R49 1.8k
R50 1k GAIN
R51 .24 2W
PEN COIL 3
P2101-B05
P2101-A05
C29 01
PEN RET 3
P2101-B12
P2101-A12
CALIFORNIA COMPUTER PRODUCTS INC.
2210 NORTH KRAEMER BLVD, ANAHEIM, CALIFORNIA
2411 WEST LA PALMA, ANAHEIM, CALIFORNIA
ASSEMBLY
I/O PEN DRIVE
1039
SCALE: NONE
SIZE D
20865-502-000
SHEET 4 OF 7

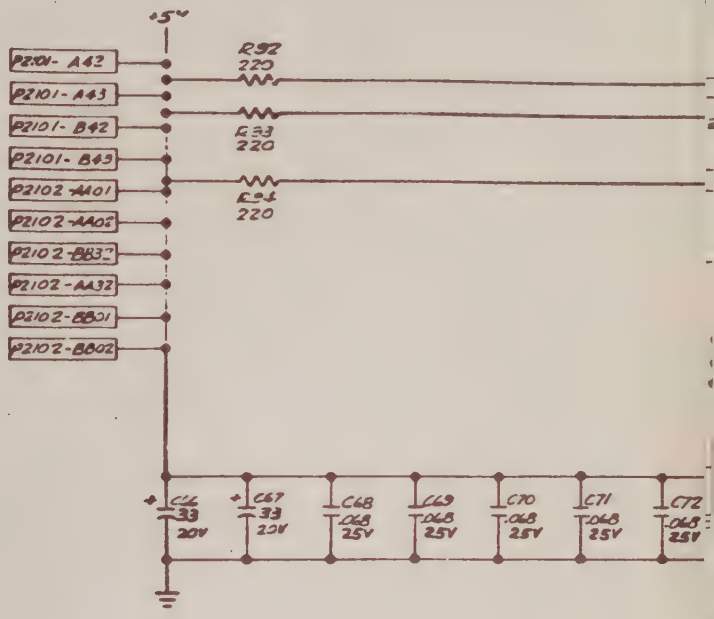

R55
+5V
4.7K
P2101-B36
MIPSW/
P2101-B35
MIMSW/
P2101-B38
MYPSW/
P2101-B37
MYMSW/
U46
74LS175
MIP
MIM
MYP
MYM
200HZ
SR2
CLR
MIP/
MIM/
MYP/
MYM/
U37
74LS00
MXPM
MYPM
TP3
TP4
YEL
(17)
(7) (22) SR2
MANUAL MOVE
CONTROL
R56, 5K
R57
270Ω
R58
680Ω
U15
CLK
(256 KHZ)
NE555
U43
74LS04
CLKA/
C31
820pf
300V.
U9
C10
C5
16 KHZ/
U16
74LS109
74LS9161
U18
÷16
SR1
8KHZ
1.6KHZ
U10
÷5
U8
(7) (21) SR1
CLOCK GEN.


MXP
MXM
MYP
MYM
+5V
U33
74LS109
200HZ
5R1
TP5
GRN
CLKMAN
U34
74LS00
CLK
P2102-AA16
MXTC
U43
74LS04
MXPM
U37
U36
74LS161
SRATE
CLKA/
SR2
MXP
U35
XMAN/
MXM
XMAN/
MXCNT
U44
U45
MYTC
YMAN/
MYM
YMAN/
CLKA/
MYCNT
8KHZ
P2102-BB26
4KHZ
P2102-BB27
U9
U17
74LS04
U7
800HZ
SRATE
S4
1 MIL
2 MIL
SELECT
P2101-539
16KHZ/
P2102-AA25
INCREMENT SELECT
CALIFORNIA COMPUTER PRODUCTS INC.
ASSEMBLY—
I/O PEN DRIVE
1039
SCALE: NONE
SIZE D
20865-502-


(5) 12 XMMAN/
(5) 11 XPMAN/
+5V
+15V
R61 470
R41 22K
R59 4.7K
C32 .01
J2110-3 XPN
47K
C34 820pf 200V
U4
MC3302P
C33 .01
J2110-11 XPP
R61 470
BIAS
MAN/
(4) (3) 3 MAN/
U5
74LS00
U6
74LS00
9602
U14
C35 .047
R63 22K
C36 .047
R62 22K
U13
J2110-12 XNP
C37 .01
J2110-1 XNN
C38 .01
C39 820pf 200V
R60 4.7K
R62 470
C40 .01
J2110-14 YPN
C41 .01
J2110-9 YPP
C42 820pf 200V
C43 .047
C44 .047
(3) 1 BIAS
J2110-13 YNP
C45 .01
J2110-2 YNN
C46 .01
C47 820pf 200V
(5) 13 YPMAN/
(5) 14 YMMAN/
P2102-BB39
P2102-AA38
P2102-BB40
P2102-AA40
PSF
PSR
R86 10K
74LS04
RESET/
CRS
IN914
R90 270K
R91 150Ω,2
U27
NE555V
C63 15μF 20V
R88 100K
R89 6.8K
R87 47K
C62 15μF 20V
R88 18K
U28
POWER ON CONTROL
(CP) P2102-EE05
MRST SW/

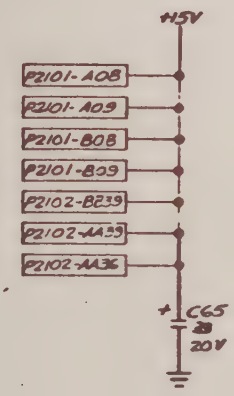

2 outstanding ECO 11863
REVISIONS
REV ZONE DESCRIPTION DATE & APPR
XINP P2102-BB16
XINM P2101-B33
YINP P2101-B34
YINM P2101-B32
+15RY P2101-A15
P2101-B15
GRDM P2102-BB06
P2102-AA06
P2102-BB07
P2102-AA07
PMF P2102-BB15
P2102-AA15
PMF RET P2102-BB13
P2102-AA13
P2102-BB14
P2102-AA14
+VM P2102-BB09
P2102-AA09
PMR RET P2102-BB10
P2102-AA10
P2102-BB11
P2102-AA11
PMR P2102-BB12
P2102-AA12
-VM P2102-AA08
P2102-BB08
RESET/ P2102-AA05
P2102-BB21
TP7 VIO PSF R65 820K
CW R66 100K RT 20K R67 R68 33K -15V
U51 MC3302 R64 820K C48 2.2µf 20% R69 820K
U52 741TC C49 .068 25V C53 .068 25V C52 .01
K3-A R70 470
Q13 MJE800 Q14 2N3566 CR7 IN914
R71 2W .24 R72 .24 2W
Q16 2N3645 Q15 MJE700 CR8 IN914
C54 0.1 R75 100K
MAN/ U51 MC3302 R73 12K R74 4.7K
U51 MC3302 R76 820K C55 20V 22µF R81 820K
U63 74LS04
TP8 GRY R77 820K
CW R78 100K RT 20K R79 R80 33K -15V
U63 741TC C56 .068 25V C57 .068 25V C59 .01 C60 .068 25V
K3B R82 470
Q17 MJE800 Q18 2N3566 CR9 IN914
R83 2W .24 R84 .24 2W
Q20 2N3645 Q19 MJE700 CR10 IN914
C61 0.1 R85 100K
RST/ RESET/
PAPER SERVO CONTROL
CALIFORNIA COMPUTER PRODUCTS INC.
1270 NORTH KRAEMER BLVD. ANAHEIM, CALIFORNIA
3211 WEST LA PALMA, ANAHEIM, CALIFORNIA 92801
ASSEMBLY- I/O PEN DRIVE 1039
SCALE: NONE SIZE D 20865-502-000
SHEET 6

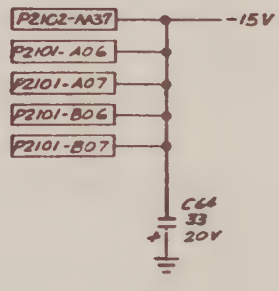




ASSIGNED BUT NO CONNECTION

- P2102-AA23 — M3/
- P2102-AA24 — M1/
- P2102-AA25 — M2/
- P2102-AA26 — MAN/
- P2102-AA34 — YAENC
- P2102-AA35 — YRENC
- P2102-AA21 — MXMSW/
- P2102-AA22 — MYPSW/
- P2102-AA27 — MYMSW/
- P2102-AA28 — MXPSW/
- P2102-AA22 — MRSTSW/
- P2102-BB24 — LIMYP
- P2102-BB25 — LIMXP
- P2102-BB26 — LIMXM
- P2102-BB29 — LIMYM
- P2102-BB30 — XAENC
- P2102-BB31 — XBENC
- P2102-AA37 — -15V
- P2102-BB17 — +5V
- P2102-AA17





REVISIONS			
REV	ZONE	DESCRIPTION	DATE & APPROVAL
2		OUTS 21 CHG TO 11863	15952 16154 ... 963

5R1 — 21 (5)

5R2 — 22 (5)

5R3 — 23 (3)

C73	C74	C75	C76	C77	C78	C79	C81	C82
.068 25V	.068 25V	.068 25V	.068 25V	.068 25V	.068 25V	.068 25V	.068 25V	.068 25V

REF DES	+5V	GRD	+15V	-15V
U1		3	7	4
U2	16	8	-	-
U3	16	8	-	-
U4	-	12	3	-
U5	14	7	-	-
U6	14	7	-	-
U7	16	8	-	-
U8	16	8	-	-
U9	14	7	-	-
U10	16	8	-	-
U11	14	7	-	-
U12	14	7	-	-
U13	16	8	-	-
U14	16	8	-	-
U15	8	1	-	-
U16	16	8	-	-
U17	14	7	-	-
U18	16	8	-	-
U19	-	3	7	4
U20	14	7	-	-
U21	14	7	-	-
U22	14	7	-	-
U23	14	7	-	-
U24	14	7	-	-
U25	14	7	-	-
U26	-	-	8	-
U27	-	1	4&8	-
U28	5	12	3	-
U29	16	8	-	-
U30	14	7	-	-
U31	14	7	-	-
U32	16	8	-	-
U33	16	8	-	-
U34	14	7	-	-
U35	14	7	-	-
U36	16	8	-	-
U37	14	7	-	-
U38	16	8	-	-
U39	16	8	-	-
U40	16	8	-	-
U41	16	8	-	-
U42	16	8	-	-
U43	14	7	-	-
U44	16	8	-	-
U45	16	8	-	-
U46	16	8	-	-
U47	-	3	7	4
U48	16	8	-	-
U49	-	12	3	-
U50	14	7	-	-
U51	-	12	3	-
U52		-	7	4
U53	-	-	7	4

CALIFORNIA COMPUTER PRODUCTS INC.

ASSEMBLY
I/O PEN DRIVE
1039

SCALE: NONE | SIZE: D | 20865-502-000

SHEET 7 of 7

I/C NO.	ITEM NO.	REQD	PART OR IDENTIFYING NO.	NOMENCLATURE OR DESCRIPTION	S
336270-4	81	2	37012-206-009	EJECTOR-PCB	
	80				
438150-5	79	2	30066-404-002	CONN HEADER	3492
	78				
003460-3	77	1	13501-206-010	TEST JACK	BLK
003510-5	76	1	13501-206-004	TEST JACK	YEL
003490-0	75	1	13501-206-003	TEST JACK	ORG
066650-3	74	1	13501-206-002	TEST JACK	RED
0666602	73	1	13501-206-001	TEST JACK	BRN
	72				
443770-3	71	1	20866-512-000	P.C. BOARD	
397710-5	70	2	40304-508-000	INTEGRATED CKT	MC1408L
417660-8	69	4	10532-508-000	INTEGRATED CKT	SN74LS2
405660-2	68	2	50312-508-000	INTEGRATED CKT	IH5020
272580-2	67	3	10354-508-000	INTEGRATED CKT	9602
397700-6	66	1	30316-508-000	INTEGRATED CKT	MC3302
272530-7	65	6	30301-508-000	INTEGRATED CKT	741TC
292670-7	64	4	30107-508-000	INTEGRATED CKT	LM311
426000-6	63	2	10542-508-000	INTEGRATED CKT	74LS148
416280-6	62	2	10529-508-000	INTEGRATED CKT	74LS30
416290-5	61	3	10528-508-000	INTEGRATED CKT	74LS20
416130-3	60	2	10525-508-000	INTEGRATED CKT	74LS175
416120-4	59	4	10524-508-000	INTEGRATED CKT	74LS42
286180-5	58	1	10367-508-000	INTEGRATED CKT	7402
411780-0	57	6	10508-508-000	INTEGRATED CKT	74LS161
411620-8	56	6	10503-508-000	INTEGRATED CKT	74LS109
411610-9	55	2	10502-508-000	INTEGRATED CKT	74LS151
411600-0	54	2	10501-508-000	INTEGRATED CKT	74LS153
	53				
411790-9	52	4	10498-508-000	INTEGRATED CKT	74LS157
411540-8	51	4	10494-508-000	INTEGRATED CKT	74LS10
409780-4	50	5	10486-508-000	INTEGRATED CKT	74LS00
408130-0	49	14	10485-508-000	INTEGRATED CKT	74LS191
411510-1	48	6	10491-508-000	INTEGRATED CKT	74LS04
286300-9	47	1	10379-508-000	INTEGRATED CKT	7440
341750-8	46	10	50015-404-101	SOCKET, I.C. 16 PIN	
	45				
379890-2	44	2	20311-507-000	TRANSISTOR	MJE350
397690-9	43	2	10421-507-000	TRANSISTOR	MJE349
003810-9	42	2	10904-507-000	TRANSISTOR	2N3566
003840-6	41	2	10304-507-000	TRANSISTOR	2N3645
	40				
033690-9	39	2	10201-306-000	DIODE	IN914
	38				

5. RESISTOR VALUES ARE IN OHMS ± 5 % AND ARE 1/4 WATT.

4. CAPACITOR VALUES ARE IN MICROFARADS ± 10 % AND ARE RATED AT 100 VOLTS.

3.

(1) 2. APPLY DASH NO AND REVISION NO. USING BLACK CHARACTERS PER C.C.P. SPEC. A0104-001

1. PERFORMANCE TEST PER C.C.P. SPEC A0505-397

NOTE: UNLESS OTHERWISE SPECIFIED

REVISIONS			
REV	ZONE	DESCRIPTION	DATE & APPROVAL
0		PRODUCTION RELEASE	
1		REVISED SILKSCREEN TO AGREE WITH -512	ECR 5444
2		ITEM 12, 10212-504-456 WAS 10212-504-454, EFFECTY. 5-8-8. CODE B	3-9-78 ECR 5731
3		IN L/M ITEM 46 P/N 50015-404-101 WAS 50023-404-001 REVISED ETCH PER ECR 5751 EFFECTIVITY DATE 3-13-78. CODE F	ECR 5751

I/C NO.	ITEM NO.	REQD	PART OR IDENTIFYING NO.	NOMENCLATURE OR DESCRIPTION	MATERIAL SIZE, DESCRIPTION & SPECIFICATION	ZONE
	37					
277800-9	36	2	10503-505-466	CAPACITOR	.022 UF ± 10% 100V	C13, C19
303450-1	35	37	10507-505-190	CAPACITOR	.068 UF, +50-20%, 25V	C10-11, C22-24, C27, C30-33, C38-60, C62, C64, C66, C6
226070-1	34	2	10503-505-500	CAPACITOR	.1 UF ± 10%, 100V	C16, C8
332450-6	33	2	10503-505-486	CAPACITOR	.056UF ± 10%, 100V	C15, C20
223200-7	32	8	10503-505-450	CAPACITOR	.01 UF, ± 10%, 200V	C1-8
031560-6	31	2	10503-505-425	CAPACITOR	3300 PF ± 10%, 200V	C17, C21
226360-6	30	2	10502-505-440	CAPACITOR	6800 PF ± 10%, 100V	C34, C35
000630-4	29	4	10205-505-250	CAPACITOR	1 UF ± 10%, 35V	C25, C26, C28, C29, C9
000550-4	28	4	10204-505-308	CAPACITOR	15 UF, ± 10%, 20V	C61, C63, C65, C67
127740-9	27	2	10202-505-328	CAPACITOR	39 UF ± 10%, 10V	C36, C37
209960-4	26	2	10202-505-266	CAPACITOR	2.2 UF, ± 10%, 10V	C12, C14
	25					
	24					
	23					
	22					
438120-8	21	3	60109-504-432	RES., SIP, 10PIN	4.7K	R3, R61, R63
	20					
438110-9	19	2	40212-504-464	POTENTIOMETER	20K	R22, R25
438160-4	18	2	40212-504-414	POTENTIOMETER	2K	R17, R18
002380-4	17	10	10222-504-350	RESISTOR	100 @ HM, ± 5%, 1/2 W	R45, R46, R48, R49, R55-60
186510-4	16	4	10501-504-200	RESISTOR	.1 OHM ± 5% 2W NW	R50 - R53
109160-2	15	7	10212-504-482	RESISTOR	47K, ± 5%, 1/4 W	R10-12, R26, R31, R42, R44
	14					
109050-5	13	2	10212-504-466	RESISTOR	22K, ± 5%, 1/4W	R21, R23
116740-2	12	2	10212-504-456	RESISTOR	13K, ± 5%, 1/4 W	R19-20
079630-0	11	10	10212-504-430	RESISTOR	10K, ± 5%, 1/4 W	R24, R27-30, R32, R33, R40, R41, R43
131120-8	10	4	10212-504-440	RESISTOR	6.8K, ± 5%, 1/4 W	R13-16
109180-0	9	6	10212-504-432	RESISTOR	4.7K, ± 5%, 1/4 W	R4-7, R37, R38, R21, R23
079600-3	8	2	10212-504-425	RESISTOR	3.3K, ± 5%, 1/4 W	R47, R54
079560-9	7	2	10212-504-408	RESISTOR	1.5K, ± 5%, 1/4 W	R34, R35
079540-1	6	8	10212-504-400	RESISTOR	1K, ± 5%, 1/4 W	R1, R2, R8, R9, R62, R64-66
265740-1	5	2	10523-504-219	RESISTOR	.25 OHM ± 5% 5W NW	R36, R39
243810-1	4	2	20408-304-001	RELAY	RA30231051-01	K1, K2
	3					
401910-5	2	2	10129-304-010	SWITCH 10 POS		S1, S2
	1					
441940-4	ITEM NO.		20866-502-000	ASSEMBLY		

LIST OF MATERIAL OR PARTS LIST

I/C NO.	ITEM NO.	REQD	PART OR IDENTIFYING NO.	NOMENCLATURE OR DESCRIPTION	MATERIAL SIZE, DESCRIPTION & SPECIFICATION	ZONE
			J2210, J2220			
			TP5			
			TP4			
			TP3			
			TP2			
			TP1			
-8			U58, U66			
83			U43, U47, U51, U55			
)			U71, U75			
			U19, U78, U82			
			U84			
			U50, U56, U69, U70, U76, U77			
			U59, U60, U64, U65			
			U16, U22			
			U49, U57			
			U18, U20, U62			
			U24, U30			
			U17, U21, U27, U29			
			U45			
			U10, U12, U35, U39, U61, U63			
			U6, U28, U72, U74, U79, U81			
			U8, U14			
			U34, U40			
			U1, U2, U5, U7			
			U67, U68, U83, U85			
			U11, U37, U42, U48, U80			
			U15, U23-25, U31-33, U36, U38, U41, U44, U46, U52, U54			
			U3, U4, U9, U13, U53, U73			
			U86			
			REF (U43, U47, U51, U55) J1-J4, U78, U81			
			Q2, Q6			
			Q1, Q5			
			Q4, Q8			
			Q3, Q7			
			CR1, CR2			

MATERIAL
SIZE, DESCRIPTION & SPECIFICATION

DIMENSIONS ARE IN INCHES	
TOLERANCES ON	
DECIMALS: XX ± .03, XXX ± .010	ANGLES: ± 0° 30'
UNLESS OTHERWISE SPECIFIED	
MODEL NO.	1039
NEXT ASSY	
FIRST USAGE	

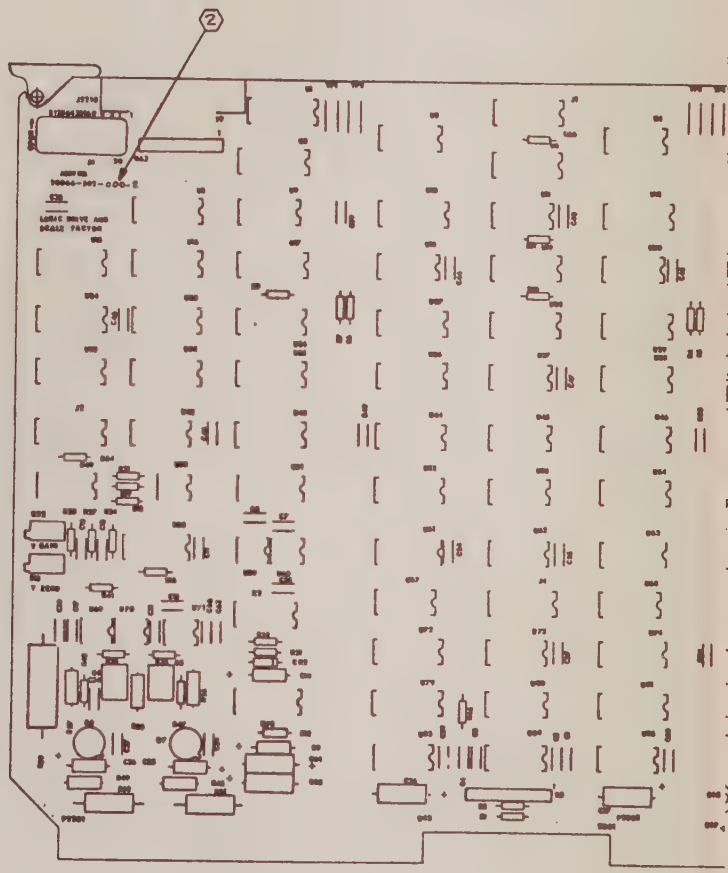
DRAWN	James Miller	6-11-77
CHECK	C.D. Hall	9-29-77
APPD		
APPD		
APPD		
FINISH		
HEAT TREAT		

CALIFORNIA COMPUTER PRODUCTS INC.
☐ 1270 NORTH KRAEMER BLVD. ANAHEIM, CALIFORNIA 92806
■ 2411 WEST LA PALMA, ANAHEIM, CALIFORNIA 92801

ASSEMBLY LOGIC, DRIVE AND SCALE FACTOR

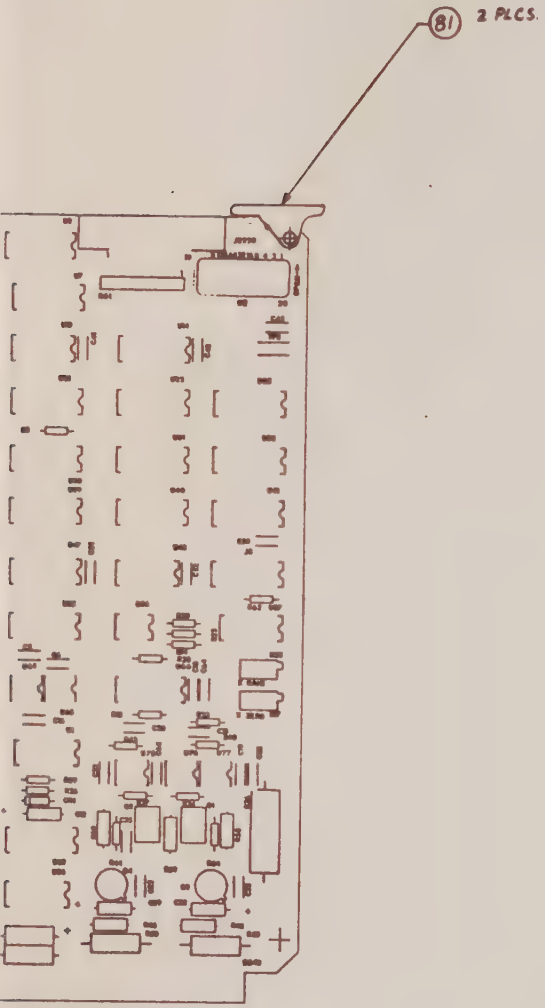
SCALE:	SIZE	
NONE	D	20866-502-000

SHEET 1 OF 9



FRONT

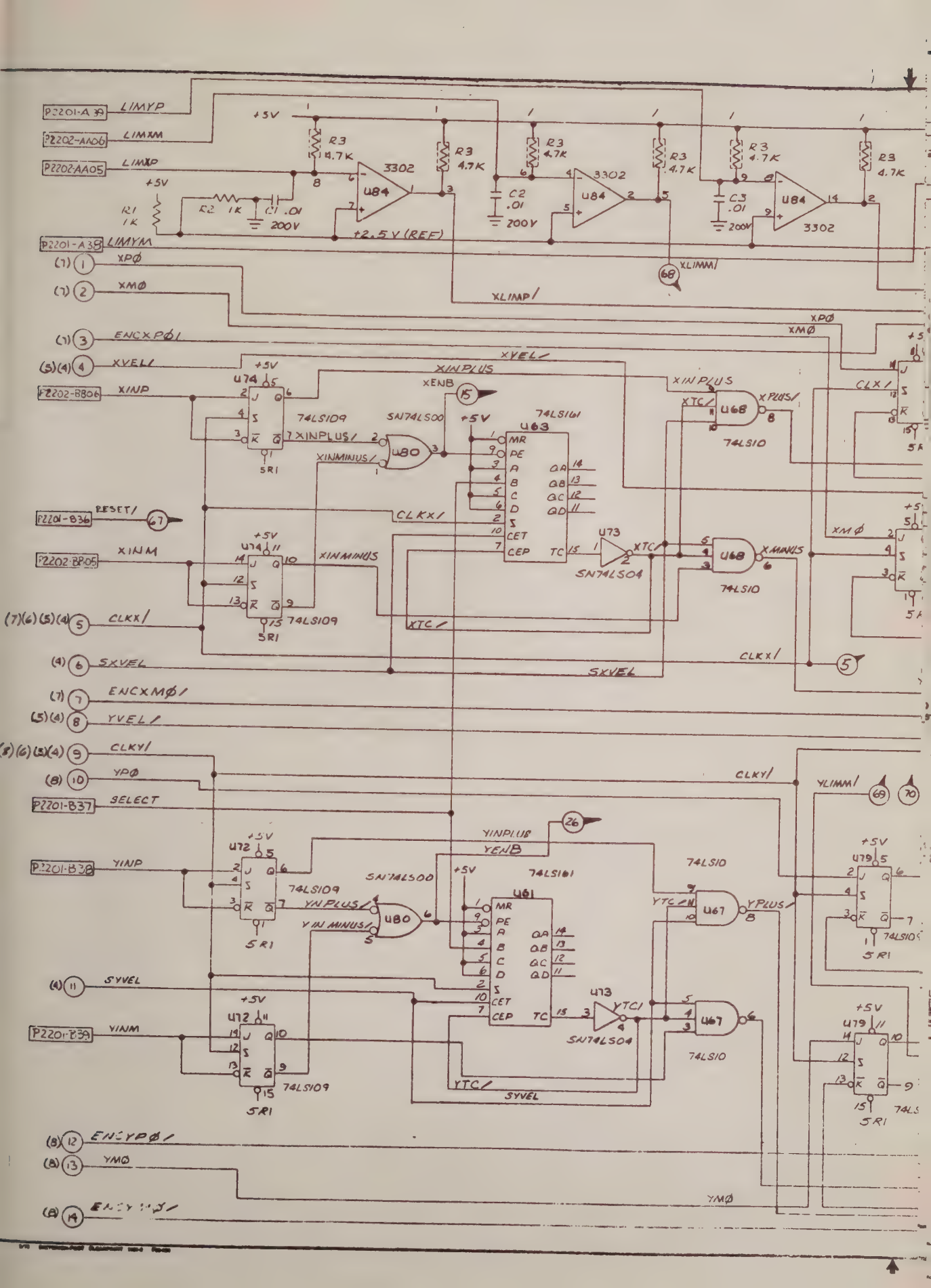
REVISIONS			
REV	ZONE	DESCRIPTION	DATE & APPROVAL
3			

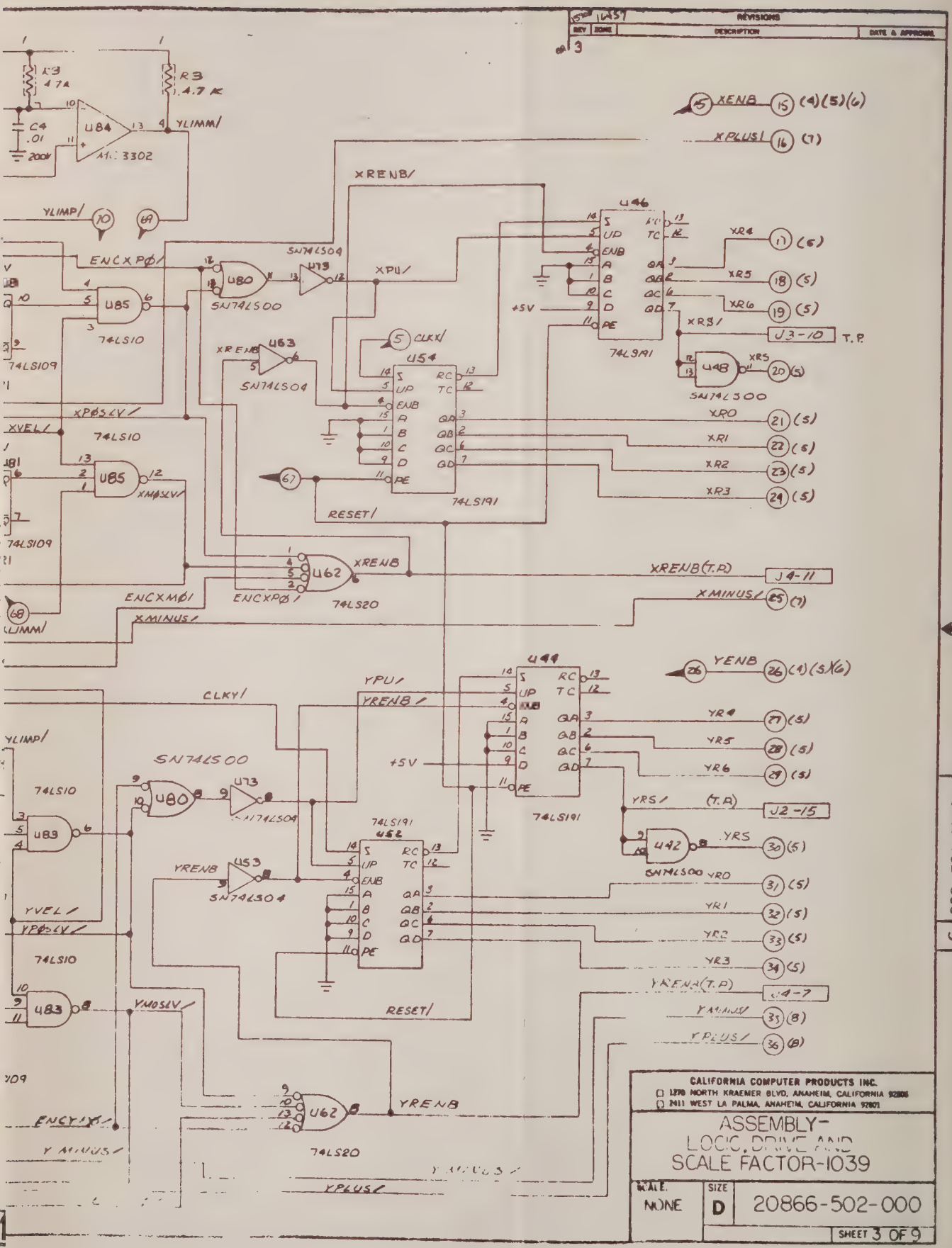


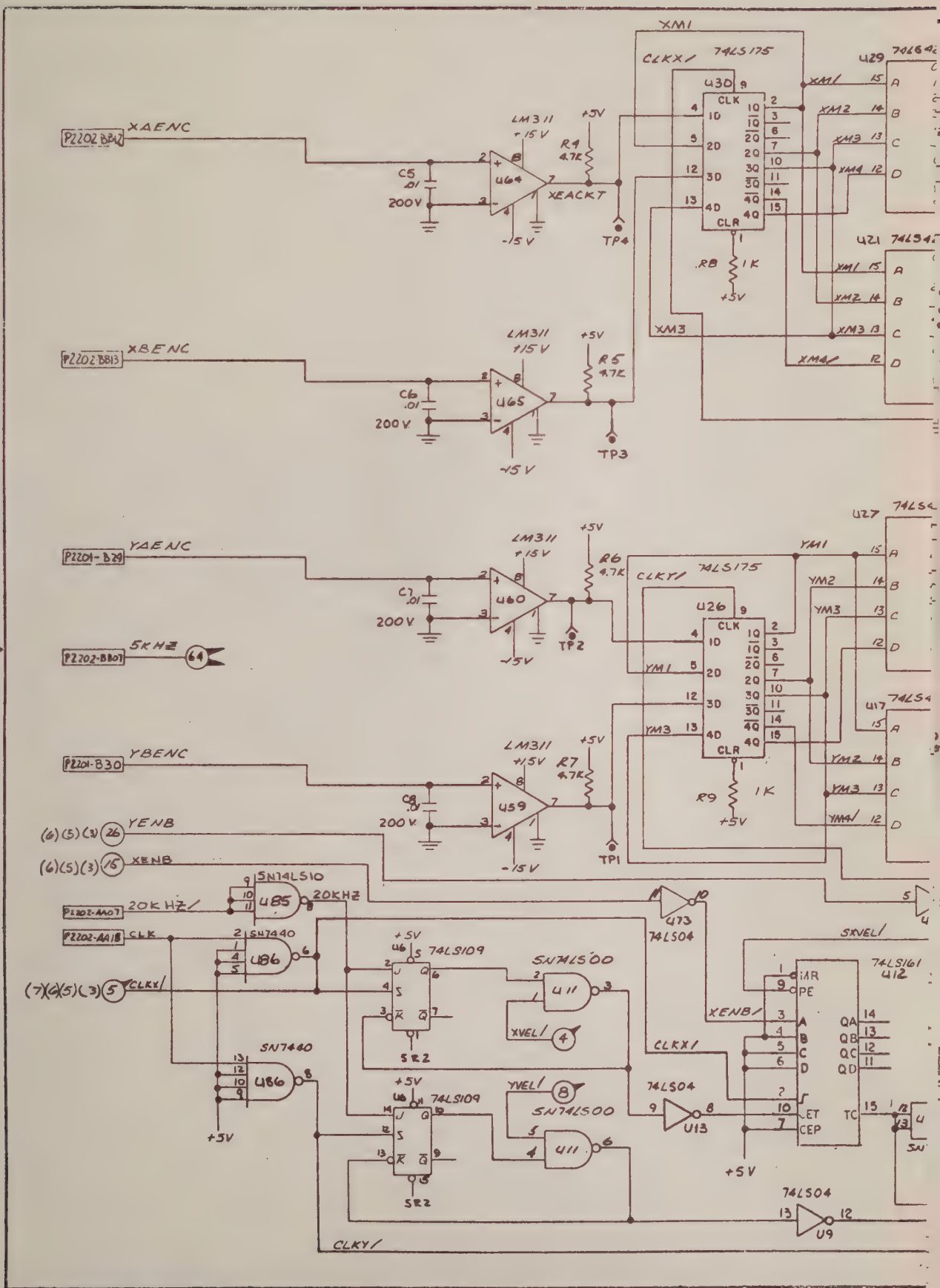
CALIFORNIA COMPUTER PRODUCTS INC.
☐ 1270 NORTH KRAEMER BLVD, ANAHEIM, CALIFORNIA 92806
☐ 2411 WEST LA PALMA, ANAHEIM, CALIFORNIA 92801

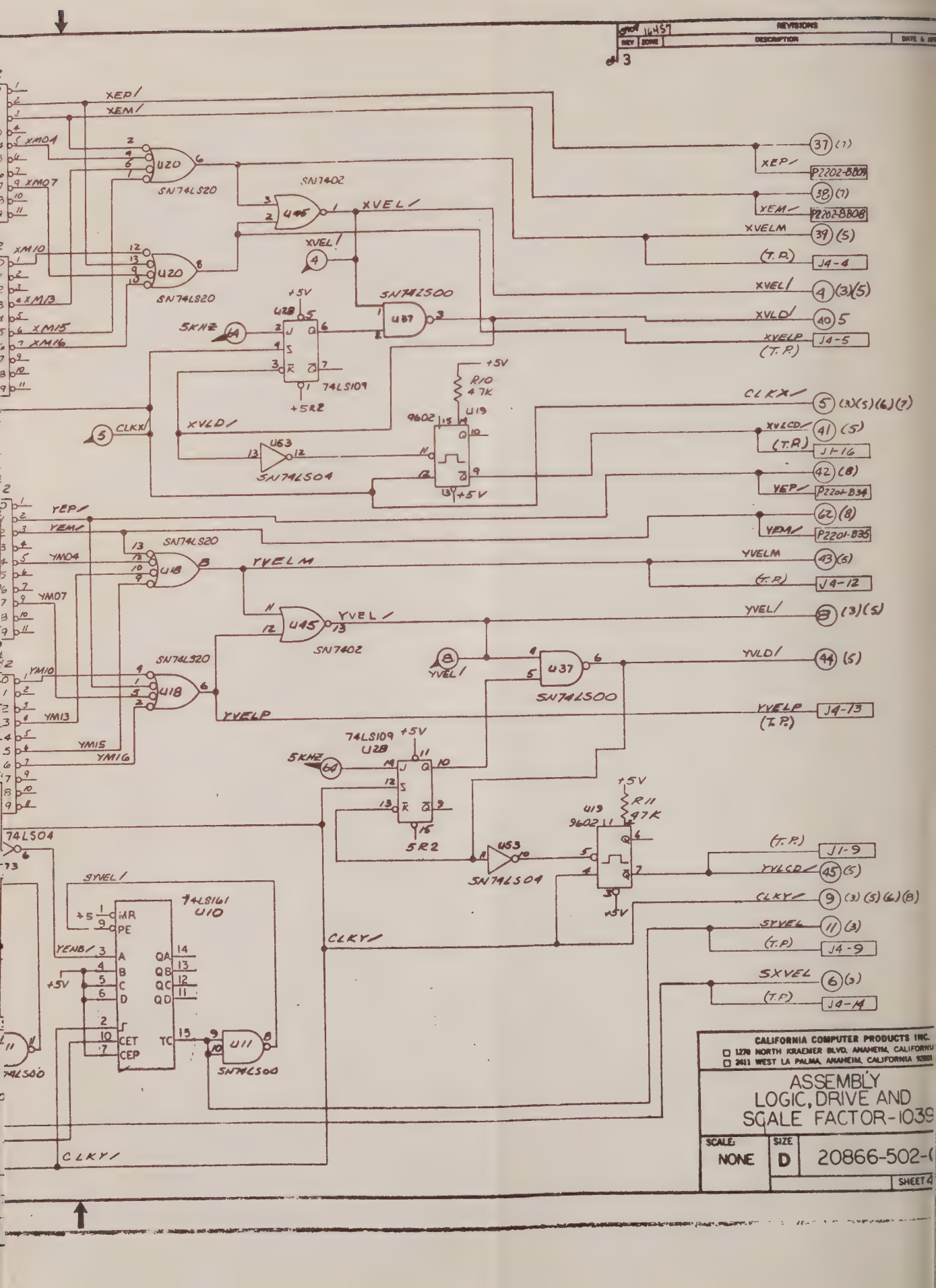
ASSEMBLY LOGIC, DRIVE AND SCALE FACTOR

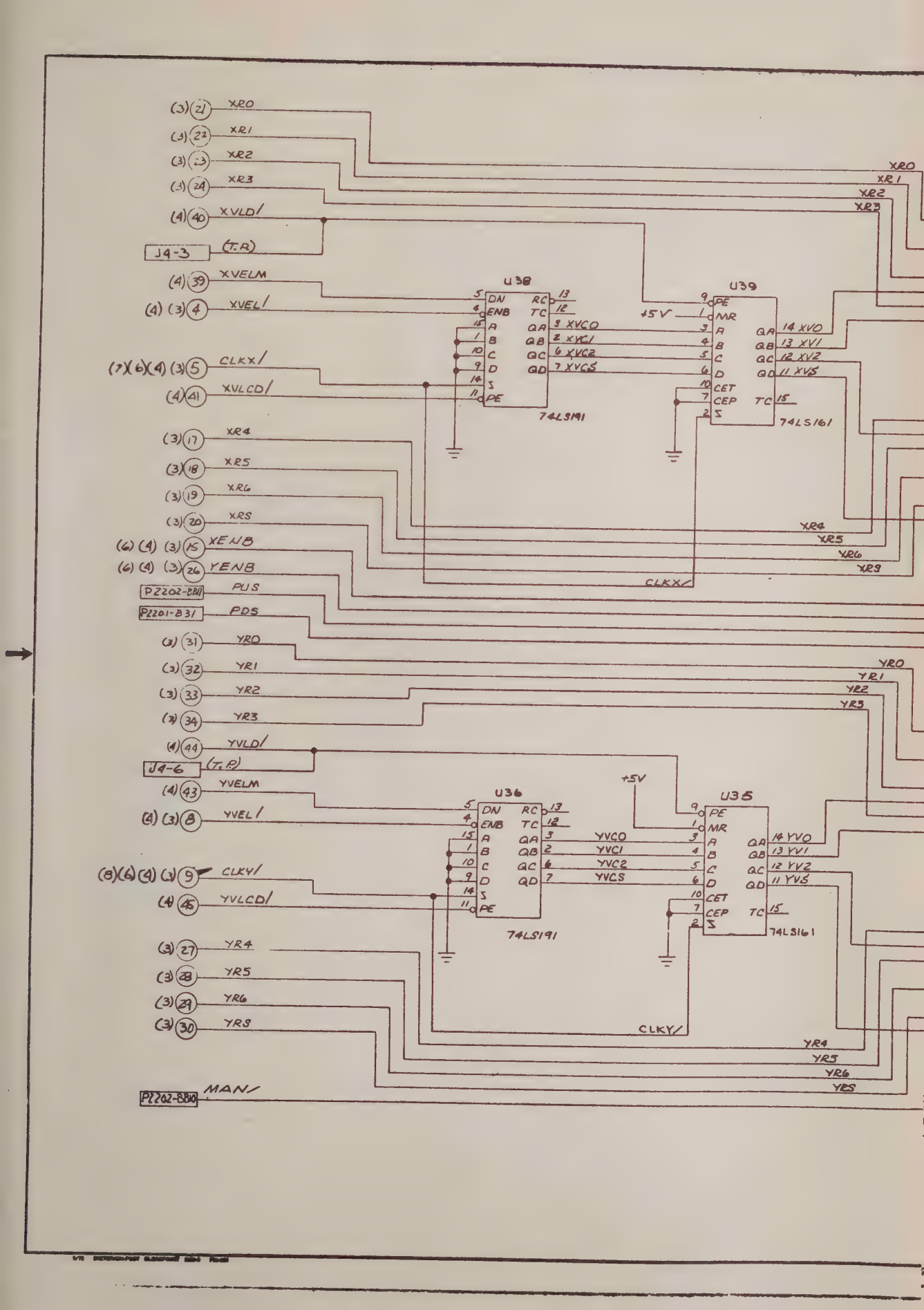
SCALE:	SIZE	
	D	20866-502-000
		SHEET 2 OF 9

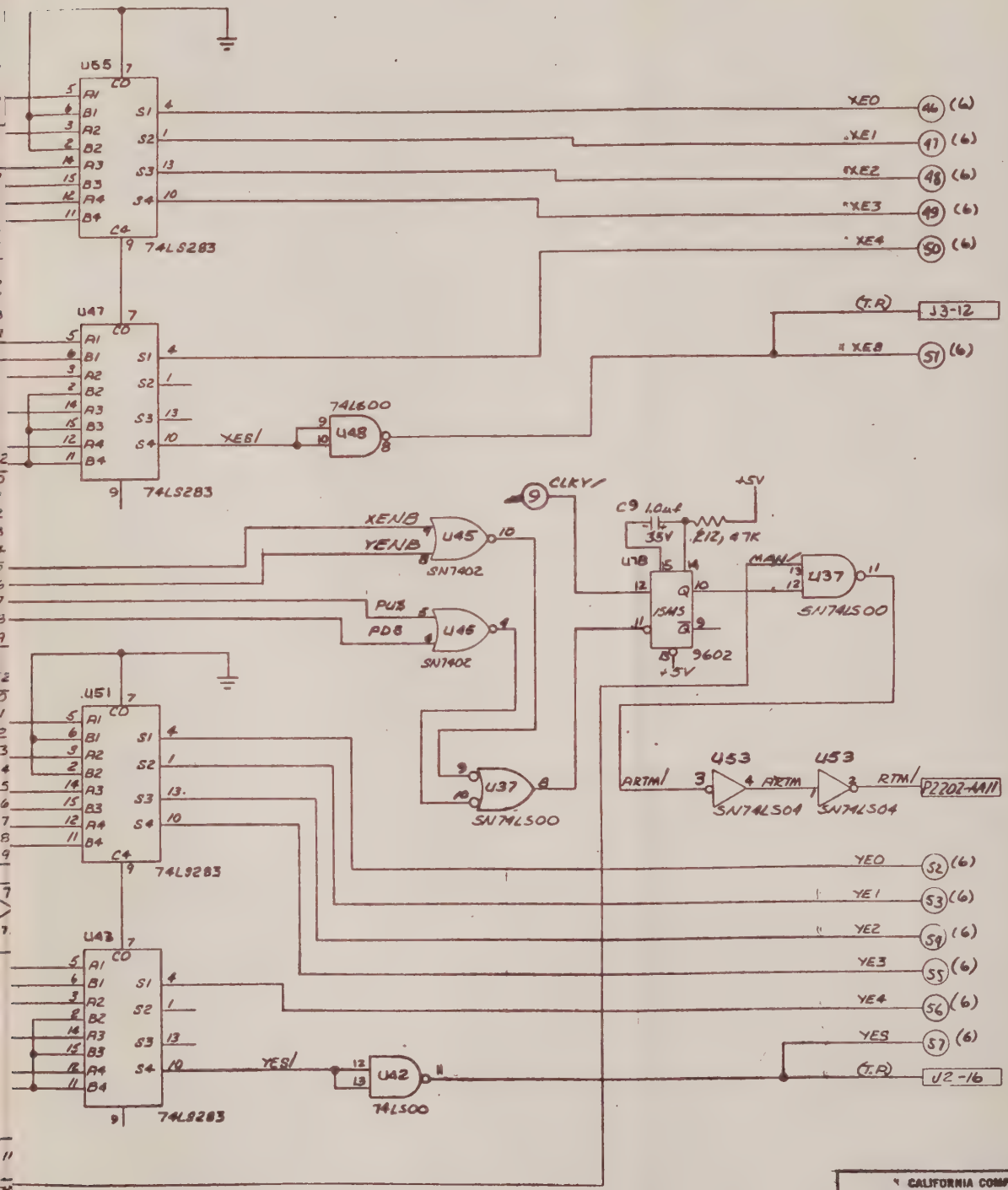

P2201-A39 LIMYP
P2202-AA06 LIMXM
P2202-AA05 LIMXP
P2201-A38 LIMYM
+5V
R3 4.7K
R1 1K
R2 1K
C1 .01 200V
C2 .01 200V
C3 .01 200V
U84
3302
+2.5 V (REF)
XLIMM/
XLIMP/
(7) 1 XPØ
(7) 2 XMØ
(7) 3 ENCXPØ/
(5)(4) 4 XVEL/
P2202-BB06 XINP
U74
74LS109
5R1
XINPLUS/
XINMINUS/
SN74LS00
U80
XENB
15
U63
74LS161
MR
PE
A
B
C
D
CET
CEP
QA
QB
QC
QD
TC
XTC/
U73
SN74LS04
U68
74LS10
XPLUS/
XMINUS/
CLKX/
XVEL/
XINPLUS
XMØ
P2201-B36 RESET/ 67
P2202-BB05 XINM
(7)(6)(5)(4) 5 CLKX/
(4) 6 SXVEL
(7) 7 ENCXMØ/
(5)(4) 8 YVEL/
(8)(6)(5)(4) 9 CLKY/
(8) 10 YPØ
P2201-B37 SELECT
P2201-B38 YINP
P2201-B39 YINM
(4) 11 SYVEL
(8) 12 ENCYPØ/
(8) 13 YMØ
(8) 14 ENCYMØ/
YINPLUS
YENB
26
YINPLUS/
YINMINUS/
U72
U61
U67
YTC/
YTC1
SYVEL
CLKY/
YLIMM/
69
70
U79
YPLUS/
YMØ


REVISIONS
REV | ZONE | DESCRIPTION | DATE & APPROVAL
R3 4.7K
C4 .01 200V
U84 A1.C 3302
YLIMM/
YLIMP/
XRENB/
SN74LS04
U80
SN74LS00
U73
XPU/
ENCXPØ/
U85
74LS10
74LS109
XPØSLV/
XVEL/
U63
SN74LS04
U54
74LS191
CLKY/
RESET/
U46
74LS191
+5V
XR4
XR5
XR6
XRØ/
U48
SN74LS00
XRO
XR1
XR2
XR3
XMØSLV/
U62
74LS20
XRENB
ENCXMØ/
XMINUS/
XRENB(T.P.)
J4-11
YENB
YPU/
YRENB/
U44
74LS191
YR4
YR5
YR6
YRS/
(T.P.)
J2-15
U42
SN74LS00
YRS
YRO
YR1
YR2
YR3
YRENA(T.P.)
J4-7
YMINUS/
YPLUS/
U53
SN74LS04
U82
74LS191
YMOSLV/
ENCYIX/
Y MINUS/
XPLUS/
CALIFORNIA COMPUTER PRODUCTS INC.
2270 NORTH KRAEMER BLVD, ANAHEIM, CALIFORNIA 92806
2411 WEST LA PALMA, ANAHEIM, CALIFORNIA 92801
ASSEMBLY-
LOGIC, DRIVE AND
SCALE FACTOR-1039
SCALE NONE
SIZE D
20866-502-000
SHEET 3 OF 9
20866-502-000 3


XAENC
P2202-BB12
LM311
+15V
-15V
U64
C5
.01
200V
R4
4.7K
XEACKT
TP4
XM1
CLKX/
74LS175
U30
CLK
CLR
RB
1K
+5V
U29
U21
XM1
XM2
XM3
XM4/
XBENC
P2202-BB13
U65
C6
.01
200V
R5
4.7K
TP3
YAENC
P2201-B29
U60
C7
.01
200V
R6
4.7K
TP2
U27
U26
YM1
YM2
YM3
5KHZ
P2202-BB07
64
YBENC
P2201-B30
U59
C8
.01
200V
R7
4.7K
R9
1K
TP1
U17
YENB
(6)(5)(3) 26
XENB
(6)(5)(3) 15
SN74LS10
U85
20KHZ
P2202-AA07
20KHZ/
P2202-AA18
CLK
SN7440
U86
(7)(6)(5)(3) 5
CLKX/
74LS109
U46
SR2
SN74LS00
U11
XVEL/
4
YVEL/
8
74LS04
U73
U13
U9
SXVEL/
74LS161
U12
XENB/
CLKX1
CLKY/
+5V


REVISIONS
DESCRIPTION
XEP/
XEM/
XM04
XM07
XM10
XM13
XM15
XM16
U20
SN74LS20
SN7402
U45
XVEL/
+5V
U28
5KHZ
74LS109
+5R2
SN74LS00
U37
R10
4.7K
U19
9602
CLKX/
XVLD/
U53
SN74LS04
YEP/
YEM/
YM04
YM07
YM10
YM13
YM15
YM16
U18
YVELM
YVEL/
YVLD/
YVELP
74LS04
SYVEL/
74LS161
U10
YENB/
CLKY/
U11
SN74LS00
R11
4.7K
SXVEL
XVELM
XVLD/
XVLCD/
XVELP
(T.P.)
J4-4
J4-5
J1-16
J4-12
J1-9
J4-13
J4-9
J4-14
P2202-B808
P2201-B36
CALIFORNIA COMPUTER PRODUCTS INC.
1270 NORTH KRAEMER BLVD. ANAHEIM, CALIFORNIA
2411 WEST LA PALMA, ANAHEIM, CALIFORNIA 92801
ASSEMBLY
LOGIC, DRIVE AND
SCALE FACTOR-1039
SCALE: NONE
SIZE: D
20866-502-(
SHEET 4


(3) 21 XR0
(3) 22 XR1
(3) 23 XR2
(3) 24 XR3
(4) 40 XVLD/
J4-3 (T.P.)
(4) 39 XVELM
(4) (3) 4 XVEL/
(7)(6)(4) (3) 5 CLKX/
(4) 41 XVLCD/
(3) 17 XR4
(3) 18 XR5
(3) 19 XR6
(3) 20 XR9
(6) (4) (3) 15 XENB
(6) (4) (3) 26 YENB
P2202-B11 PUS
P2201-B31 PDS
(3) 31 YR0
(3) 32 YR1
(3) 33 YR2
(3) 34 YR3
(4) 44 YVLD/
J4-6 (T.P.)
(4) 43 YVELM
(4) (3) 8 YVEL/
(8)(6)(4) (3) 9 CLKY/
(4) 45 YVLCD/
(3) 27 YR4
(3) 28 YR5
(3) 29 YR6
(3) 30 YR8
P2202-B30 MAN/
U38
DN RC 13
ENB TC 12
A QA 3 XVC0
B QB 2 XVC1
C QC 6 XVC2
D QD 7 XVC8
S
PE
74LS191
U39
PE
MR
A QA 14 XV0
B QB 13 XV1
C QC 12 XV2
D QD 11 XV8
CET
CEP TC 15
S
74LS161
+5V
CLKX/
U36
DN RC 13
ENB TC 12
A QA 3 YVC0
B QB 2 YVC1
C QC 6 YVC2
D QD 7 YVC8
S
PE
74LS191
U35
PE
MR
A QA 14 YV0
B QB 13 YV1
C QC 12 YV2
D QD 11 YV8
CET
CEP TC 15
S
74LS161
+5V
CLKY/
XR0
XR1
XR2
XR3
XR4
XR5
XR6
XR9
YR0
YR1
YR2
YR3
YR4
YR5
YR6
YR8

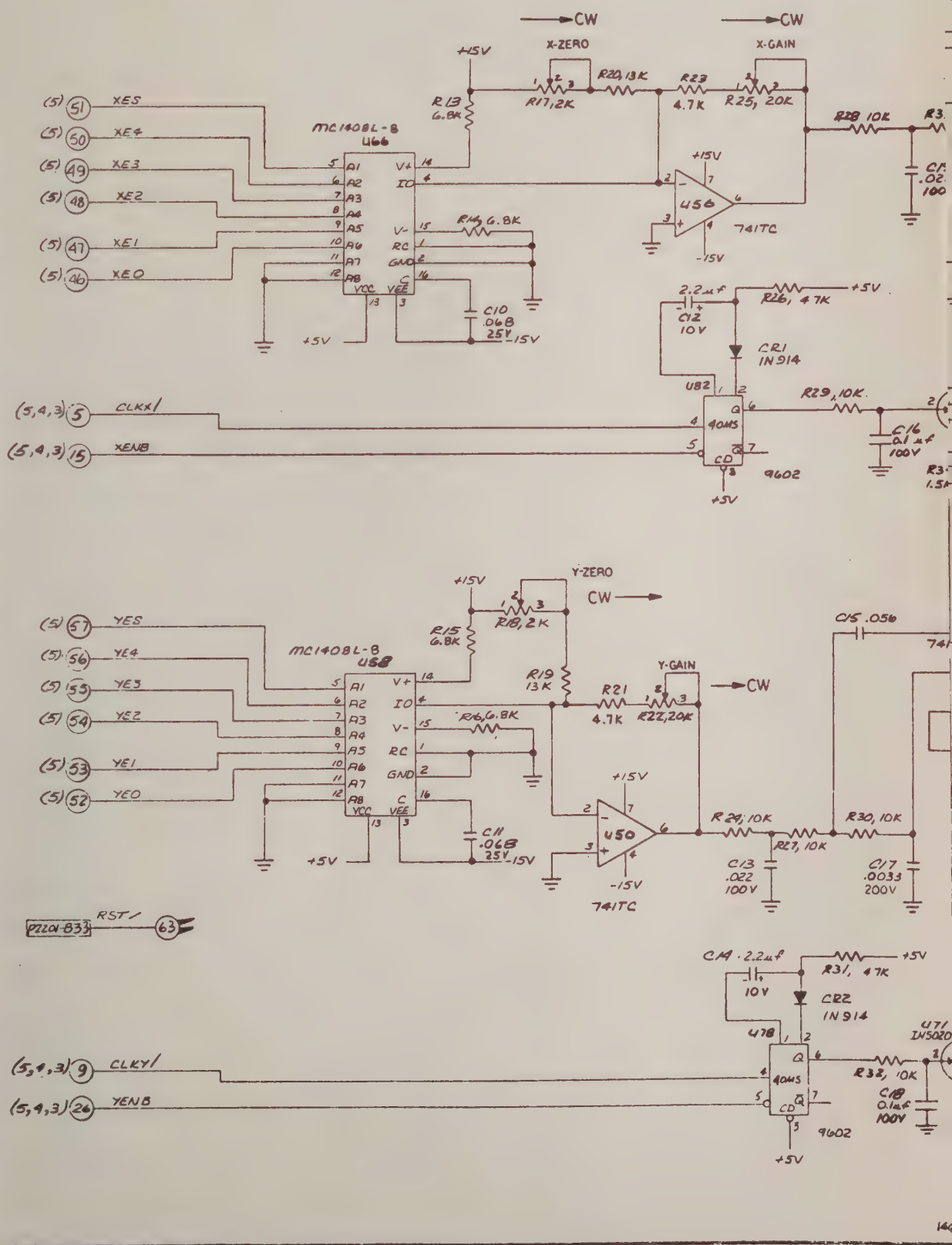


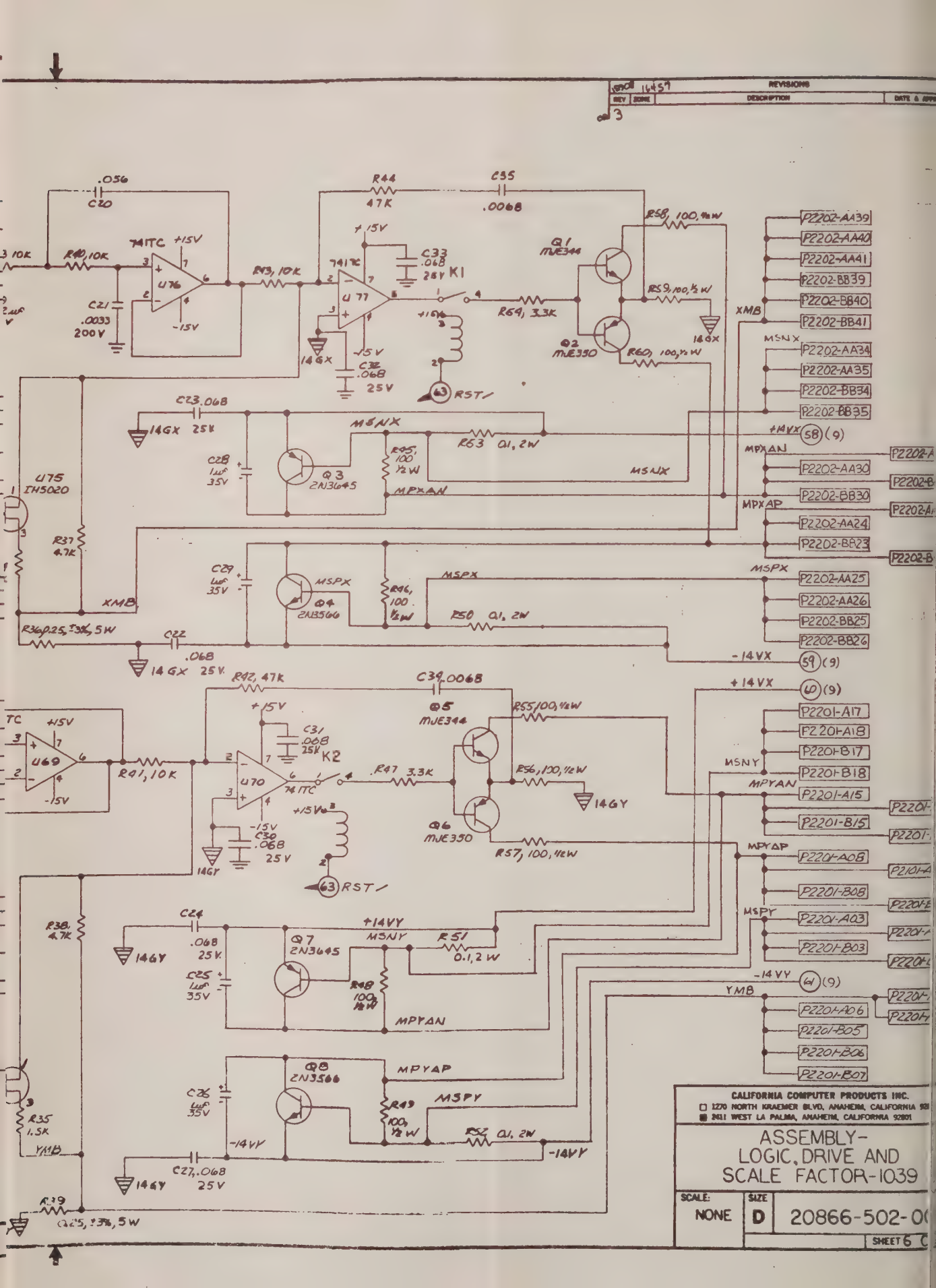
CALIFORNIA COMPUTER PRODUCTS INC.
2270 NORTH KRAEMER BLVD, ANAHEIM, CALIFORNIA 92806
2411 WEST LA PALMA, ANAHEIM, CALIFORNIA 92801

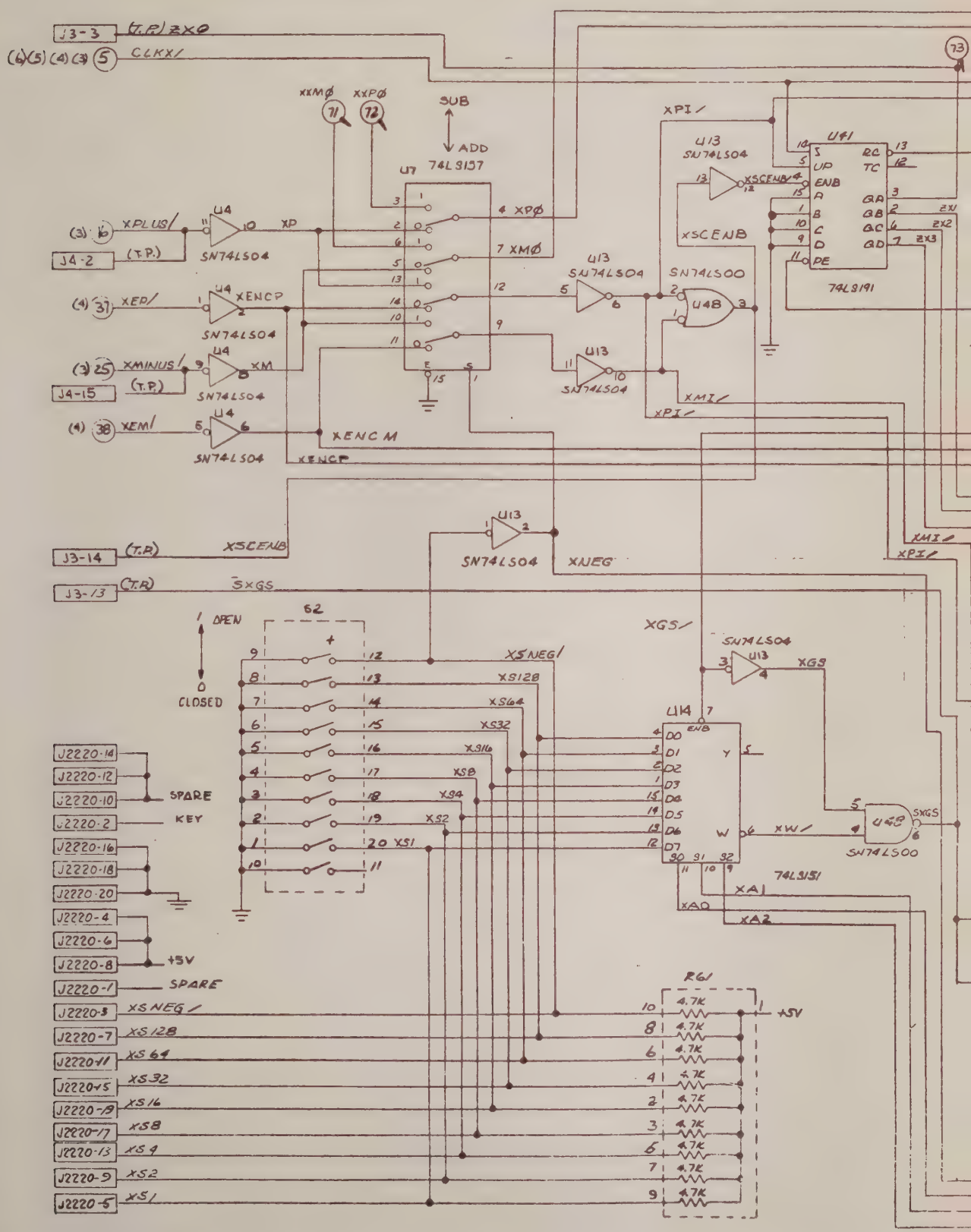
ASSEMBLY- LOGIC, DRIVE AND SCALE FACTOR-1039

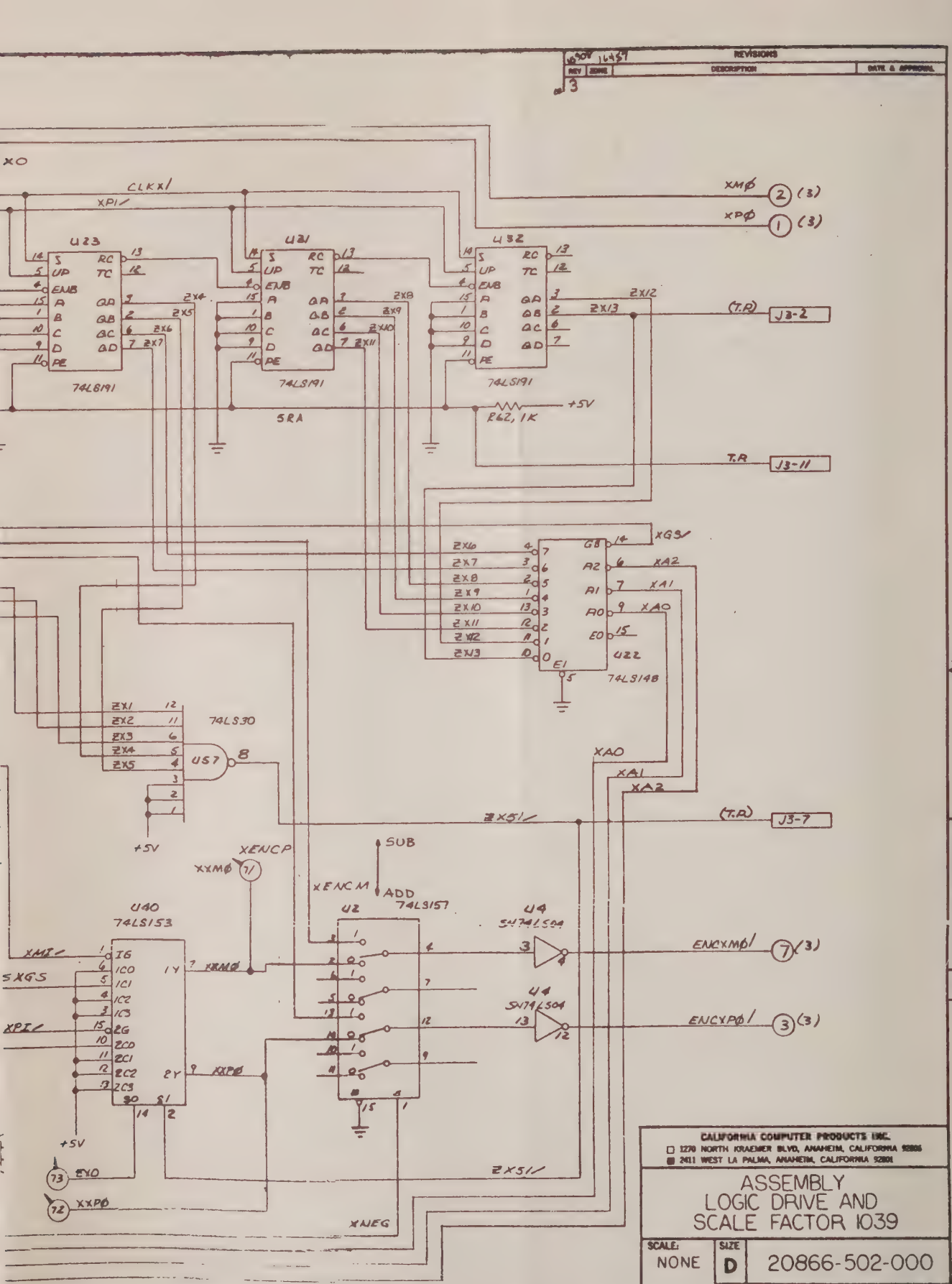
SCALE:	SIZE	
NONE	D	20866-502-000

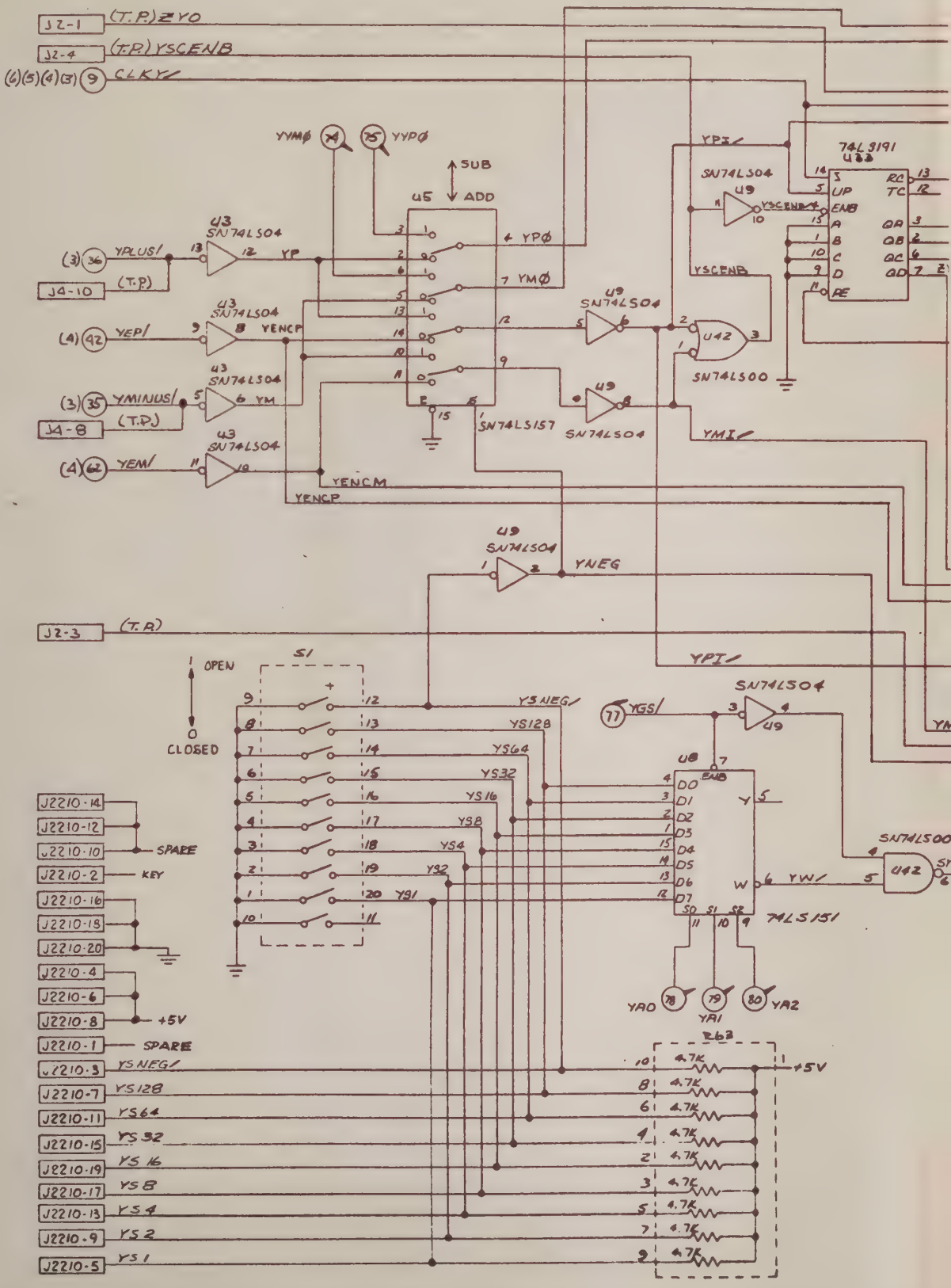
SHEET 5 OF 5

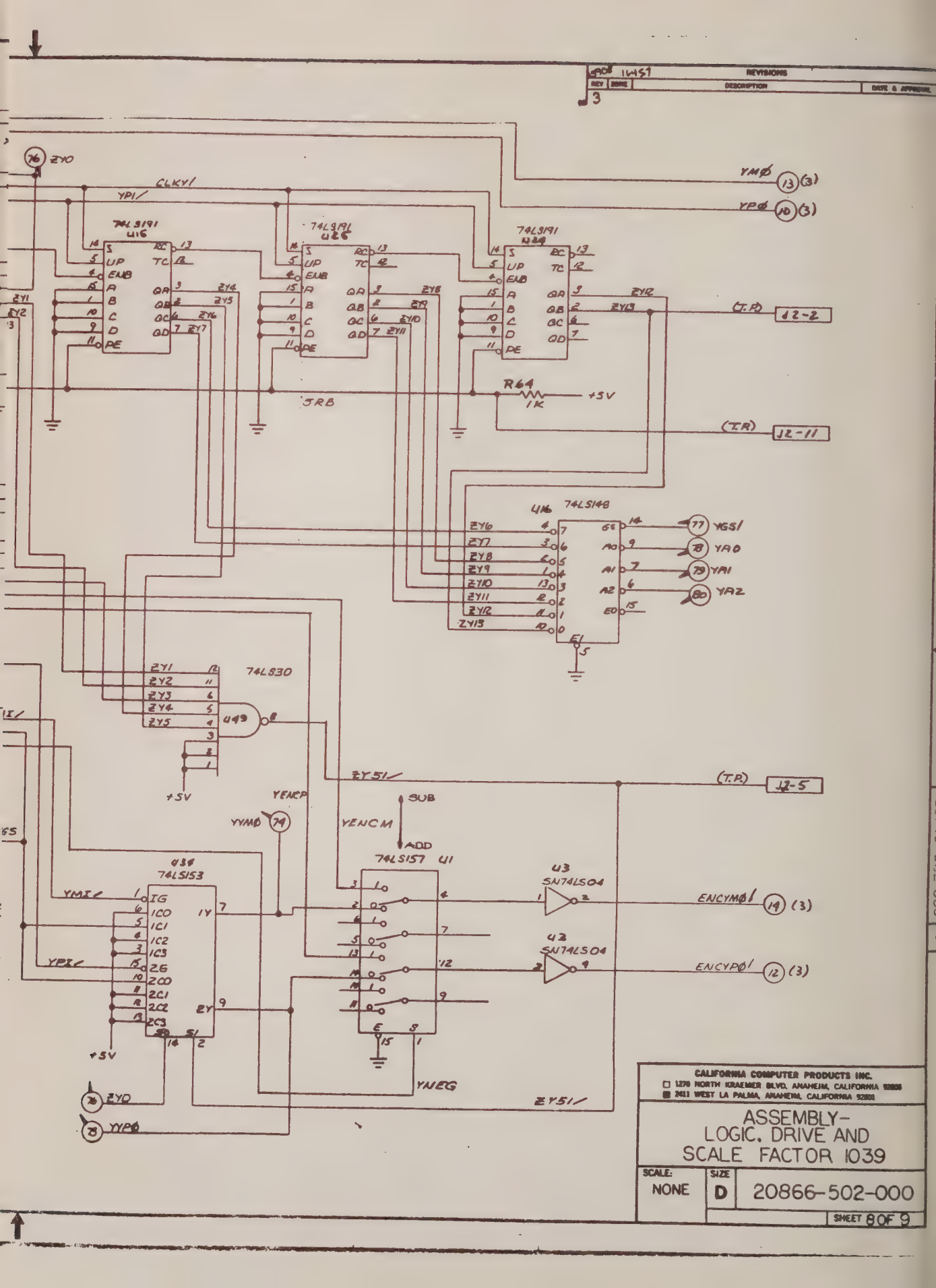

CW
X-ZERO
CW
X-GAIN
+15V
R13 6.8K
R17, 2K
R20, 13K
R23 4.7K
R25, 20K
R28 10K
MC1408L-8
U66
(5) 51 XE5
(5) 50 XE4
(5) 49 XE3
(5) 48 XE2
(5) 47 XE1
(5) 46 XE0
R14, 6.8K
C10 .068 25V
-15V
+5V
U56
741TC
2.2μf 10V
C12
R26, 4.7K
+5V
CR1 IN914
U82
9602
(5,4,3) 5 CLKX/
(5,4,3) 15 XENB
R29, 10K
C16 0.1μf 100V
Y-ZERO
CW
R18, 2K
R15 6.8K
MC1408L-8
U68
(5) 57 YE5
(5) 56 YE4
(5) 55 YE3
(5) 54 YE2
(5) 53 YE1
(5) 52 YE0
R19 13K
Y-GAIN
R21 4.7K
R22, 20K
CW
R16, 6.8K
C11 .068 25V
-15V
+5V
U50
741TC
R24, 10K
R27, 10K
R30, 10K
C13 .022 100V
C17 .0033 200V
C15 .056
P2201-B33 RST/ 63
CA 2.2μf 10V
R31, 4.7K
+5V
CR2 IN914
U78
9602
U71 IN5020
(5,4,3) 9 CLKY/
(5,4,3) 26 YENB
R32, 10K
C18 0.1μf 100V


REVISIONS
REV | ZONE | DESCRIPTION | DATE & APPR
14459
3
.056
C20
R44
47K
C35
.0068
74ITC
+15V
U76
R40, 10K
C21
.0033
200V
-15V
R43, 10K
74ITC
U77
+15V
C33
.068
25V
K1
R69, 3.3K
Q1
MJE344
Q2
MJE350
R58, 100, ½W
R59, 100, ½W
R60, 100, ½W
14GX
XMB
MSNX
P2202-AA39
P2202-AA40
P2202-AA41
P2202-BB39
P2202-BB40
P2202-BB41
P2202-AA34
P2202-AA35
P2202-BB34
P2202-BB35
+14VX (58) (9)
C23, .068
14GX 25V
MSNX
R63 Q1, 2W
R55, 100, ½W
C28
1uF
35V
Q3
2N3645
MPXAN
MPXAN
P2202-AA30
P2202-BB30
MPXAP
P2202-AA24
P2202-BB23
U75
IH5020
R37
4.7K
XMB
C29
1uF
35V
MSPX
Q4
2N3566
R46, 100, ½W
MSPX
R50 Q1, 2W
MSPX
P2202-AA25
P2202-AA26
P2202-BB25
P2202-BB26
R36, 0.25, 1%, 5W
C22
.068
14GX 25V
-14VX (59) (9)
R42, 47K
C39, 0.0068
+14VX (60) (9)
+15V
C31
.068
25V
K2
U69
74ITC
U70
R41, 10K
R47 3.3K
Q5
MJE344
R55, 100, ½W
R56, 100, ½W
14GY
Q6
MJE350
R57, 100, ½W
-15V
C30
.068
25V
14GY
+15V
63 RST/
P2201-A17
P2201-A18
P2201-B17
P2201-B18
MSNY
MPYAN
P2201-A15
P2201-B15
MPYAP
P2201-A08
P2201-B08
MSPY
P2201-A03
P2201-B03
-14VY (61) (9)
YMB
P2201-A06
P2201-B05
P2201-B06
P2201-B07
R38, 4.7K
C24
.068
25V
14GY
+14VY
MSNY
R51
0.1, 2W
Q7
2N3645
C25
1uF
35V
R48
100, ½W
MPYAN
Q8
2N3566
MPYAP
MSPY
C26
1uF
35V
R49
100, ½W
R52 Q1, 2W
-14VY
-14VY
C27, .068
14GY 25V
R35
1.5K
YMB
R39
Q25, 1%, 5W
CALIFORNIA COMPUTER PRODUCTS INC.
1270 NORTH KRAEMER BLVD, ANAHEIM, CALIFORNIA 92
2411 WEST LA PALMA, ANAHEIM, CALIFORNIA 92801
ASSEMBLY-
LOGIC, DRIVE AND
SCALE FACTOR-1039
SCALE: NONE
SIZE D
20866-502-0
SHEET 6


J3-3 (T.P.) ZXØ
(4)(5)(4)(3) 5 CLKX/
XXMØ 71
XXPØ 72
SUB
ADD
74LS157
U7
XPI/
U13 SN74LS04
U41
74LS191
XSCENB/
XSCENB
SN74LS00
U48
XPLUS/
J4-2 (T.P.)
U4 SN74LS04
XP
4 XPØ
7 XMØ
XEP/
XENCP
XMINUS/
XM
XEM/
XENCM
XMI/
J3-14 (T.R) XSCENB
XNEG
J3-13 (T.R) SXGS
XGS/
62
OPEN
CLOSED
XSNEG/
XS128
XS64
XS32
XS16
XS8
XS4
XS2
XS1
U14
74LS151
XA1
XA0
XA2
XW/
SXGS
J2220-14
J2220-12
J2220-10 SPARE
J2220-2 KEY
J2220-16
J2220-18
J2220-20
J2220-4
J2220-6
J2220-8 +5V
J2220-1 SPARE
J2220-3 XSNEG/
J2220-7 XS128
J2220-11 XS64
J2220-15 XS32
J2220-19 XS16
J2220-17 XS8
J2220-13 XS4
J2220-9 XS2
J2220-5 XS1
RG1
4.7K
+5V


REVISIONS
DESCRIPTION
DATE & APPROVAL
XO
CLKX/
XPI/
U23
U21
U32
74LS191
SRA
R42, 1K
+5V
XMØ
XPØ
(T.R)
J3-2
T.R
J3-11
2X12
2X13
U22
74LS148
XGS/
XA2
XA1
XA0
74LS30
U57
2X51/
J3-7
XENCP
XXMØ
XENCM
SUB
ADD
74LS157
U2
U40
74LS153
U4
SN74LS04
ENCXMØ/
ENCYPØ/
XMI/
XPI/
SXGS
XXMØ
XXPØ
ENO
XNEG
CALIFORNIA COMPUTER PRODUCTS INC.
1270 NORTH KRAEMER BLVD, ANAHEIM, CALIFORNIA 92806
2411 WEST LA PALMA, ANAHEIM, CALIFORNIA 92801
ASSEMBLY
LOGIC DRIVE AND
SCALE FACTOR 1039
SCALE: NONE
SIZE D
20866-502-000
SHEET 7 OF 9
20866-502-000 3


J2-1
(T.P.) ZYO
J2-4
(T.P.) YSCENB
(6)(5)(4)(3) 9
CLKY/
YYMØ
14
25
YYPØ
SUB
ADD
U5
U3
SN74LS04
(3) 36
YPLUS/
J4-10
(T.P.)
YP
4 YPØ
7 YMØ
(4) 42
YEP/
YENCP
(3) 35
YMINUS/
J4-8
(T.P.)
YM
(4) 62
YEM/
YENCM
YENCP
15
SN74LS157
U9
SN74LS04
YPI/
74L S191
U33
SN74LS04
U9
YSCENB/
YSCENB
U42
SN74LS00
YMI/
YNEG
J2-3
(T.P.)
YPI/
S1
OPEN
CLOSED
YS NEG/
YS128
YS64
YS32
YS16
YS8
YS4
YS2
YS1
77
YGS/
U8
74LS151
YW/
YA0
YA1
YA2
78
79
80
SPARE
KEY
SPARE
+5V
R63
4.7K
J2210-14
J2210-12
J2210-10
J2210-2
J2210-16
J2210-18
J2210-20
J2210-4
J2210-6
J2210-8
J2210-1
J2210-3
J2210-7
J2210-11
J2210-15
J2210-19
J2210-17
J2210-13
J2210-9
J2210-5

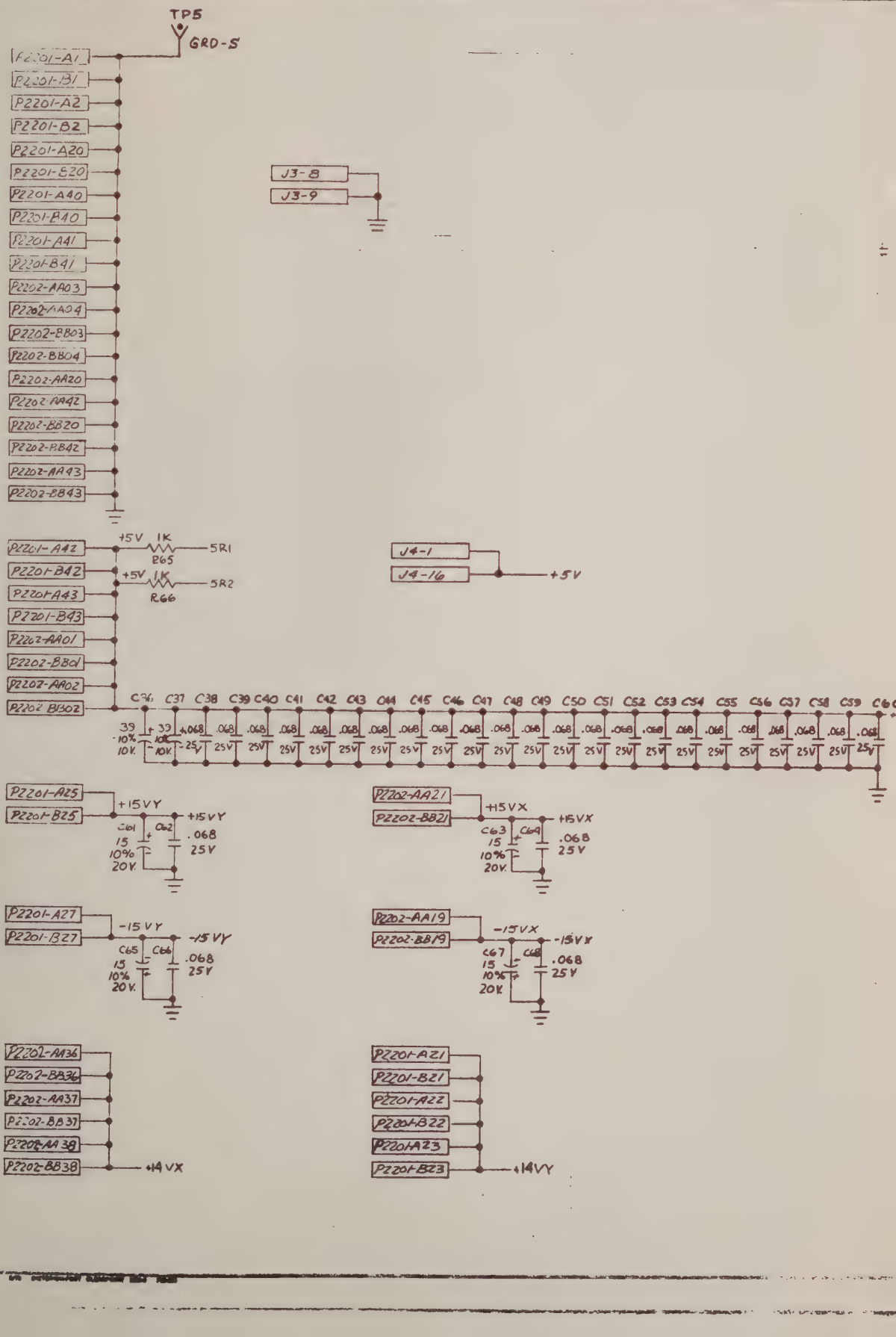


CALIFORNIA COMPUTER PRODUCTS INC.
1270 NORTH KRAEMER BLVD. ANAHEIM, CALIFORNIA 92806
2411 WEST LA PALMA, ANAHEIM, CALIFORNIA 92801

ASSEMBLY-
LOGIC, DRIVE AND
SCALE FACTOR 1039

SCALE:	SIZE	
NONE	D	20866-502-000

SHEET 80F 9


TP5
GRD-S
P2201-A1
P2201-B1
P2201-A2
P2201-B2
P2201-A20
P2201-B20
P2201-A40
P2201-B40
P2201-A41
P2201-B41
P2202-AA03
P2202-AA04
P2202-BB03
P2202-BB04
P2202-AA20
P2202-AA42
P2202-BB20
P2202-BB42
P2202-AA43
P2202-BB43
J3-8
J3-9
+5V
1K
R65
5R1
R66
5R2
P2201-A42
P2201-B42
P2201-A43
P2201-B43
P2202-AA01
P2202-BB01
P2202-AA02
P2202-BB02
J4-1
J4-16
+5V
C36 C37 C38 C39 C40 C41 C42 C43 C44 C45 C46 C47 C48 C49 C50 C51 C52 C53 C54 C55 C56 C57 C58 C59 C60
39 10% 10V.
39 10% 10V.
.068 25V
P2201-A25
P2201-B25
+15VY
C61
C62
15 10% 20V.
.068 25V
P2202-AA21
P2202-BB21
+15VX
C63
C64
15 10% 20V.
.068 25V
P2201-A27
P2201-B27
-15VY
C65
C66
15 10% 20V.
.068 25V
P2202-AA19
P2202-BB19
-15VX
C67
C68
15 10% 20V.
.068 25V
P2202-AA36
P2202-BB36
P2202-AA37
P2202-BB37
P2202-AA38
P2202-BB38
+14VX
P2201-A21
P2201-B21
P2201-A22
P2201-B22
P2201-A23
P2201-B23
+14VY

REVISIONS			
REV	ZONE	DESCRIPTION	DATE & APPR
		11487	

REF DES	+5	GRD
U1	16	8
U2	16	8
U3	14	7
U4	14	7
U5	16	8
U6	16	8
U7	16	8
U8	16	8
U9	14	7
U10	16	8
U11	14	7
U12	16	8
U13	14	7
U14	16	8
U15	16	8
U16	16	8
U17	16	8
U18	14	7
U19	16	8
U20	14	7
U21	16	8
U22	16	8
U23	16	8
U24	16	8
U25	16	8
U26	16	8
U27	16	8
U28	16	8
U29	16	8
U30	16	8
U31	16	8
U32	16	8
U33	16	8
U34	16	8
U35	16	8
U36	16	8
U37	14	7
U38	16	8
U39	16	8
U40	16	8
U41	16	8
U42	14	7
U43	16	8

REF DES	+5	GRD
U44	16	8
U45	14	7
U46	16	8
U47	16	8
U48	14	7
U49	14	7
U50	—	—
U51	16	8
U52	16	8
U53	14	7
U54	16	8
U55	16	8
U56	—	—
U57	14	7
U58	—	—
U59	—	—
U60	—	—
U61	16	8
U62	14	7
U63	16	8
U64	—	—
U65	—	—
U66	—	—
U67	14	7
U68	14	7
U69	—	—
U70	—	—
U71	—	—
U72	16	8
U73	14	7
U74	16	8
U75	—	—
U76	—	—
U77	—	—
U78	16	8
U79	16	8
U80	14	7
U81	16	8
U82	16	8
U83	14	7
U84	3	12
U85	14	7
U86	14	7

CALIFORNIA COMPUTER PRODUCTS INC.
1270 NORTH KRAEMER BLVD, ANAHEIM, CALIFORNIA 92806
2431 WEST LA PALMA, ANAHEIM, CALIFORNIA 92801

ASSEMBLY LOGIC, DRIVE AND SCALE FACTOR 103

SCALE	SIZE	
NONE	D	20866-502-0
		SHEET 9 0

443780-2	85	1	20867-512-000	PRINTED BD	
440550-2	84	1	21742-208-000	HEATSINK	PCB,
322270-0	83	1	10518-206-000	HEATSINK	
269190-5	82	2	10033-206-002	TIE WRAP	
397460 2	81	1	30411-508-000	REGULATOR	LM 320 K
391990-9	80	1	30410-508-000	REGULATOR	LM 323 A
361670-3	79	1	30405-508-000	REGULATOR	LM 340 K
341420-8	78	1	10418-508-000	INTEGRATED CKT	SN7406
	77				
	76				
	75				
446220-6	74	1	70208-506-350	RECT. BRIDGE	VJ148
436550-8	73	1	21506-304-002	RELAY, SS	S322,
350190-5	72	1	70206-506-365	RECT. BRIDGE	MDA35
433500-6	71	1	70207-506-350	RECT. BRIDGE	VH148
330110-8	70	1	50107-506-323	SCR	SO316
068890-3	69	4	20101-506-334	DIODE	IN400
	68				
168870-4	67	1	30211-506-284	DIODE-ZENER	IN751
	66				
	65				
387430-2	64	1	10513-505-150	CAPACITOR	.01 mf 20
303450-1	63	2	10507-505-190	↕	.068 "50
000680-9	62	2	10205-505-316	↕	22 mf, 1
000640-3	61	3	10205-505-266	↕	2.2 mf, 1
127740-9	60	1	10202-505-328	↕	39 mf, 1
213090-4	59	1	10128-505-402	↕	1100 mf,
093000-8	58	1	10128-505-384	CAPACITOR	500 mf,
	57				
	56				
440770-6	55	1	10621-504-582	RESISTOR	4.7 MEG
077780-3	54	2	10501-504-382	↕ WW	470 OHM
002550-2	53	2	10222-504-416	↕	2.2K OHM
002570-0	52	2	10222-504-425	↕	3.3K OHM
002510-6	51	1	10222-504-400	↕	1K OHM
002470-3	50	1	10222-504-382	↕	470 OHM
002380-4	49	1	10222-504-350	↕	100 OHM
109180-0	48	3	10212-504-432	↕	4.7K OHM
116510-9	47	1	10212-504-316	REBISTOR	22 OHM,
002910-8	46	1	10231-504-408	RESISTOR	1.5K OHM
	45				
	44				
444450-1	43	6	10209-405-158	WIRE-STRD	PVC, 16
228180-6	42	13.6	10204-405-143	↕	PVC, 16 A
236210-1	41	5.5	10204-405-142	↕	PVC, 18 A
228350-5	40	3.7	10202-405-097	↕	PVC, 18 A
3[illegible]350-6	39	3	10204-405-082	↕	PVC, 18 A
228130-5	38	9	10204-405-022	↕	PVC, 18
228130-1	37	4.6	10201-405-152	↕	PVC, 14
232470-5	36	6.3	10201-405-142	↕	PVC, 14 A
228140-0	35	1	10201-405-039	WIRE-STRD	PVC, 14 A
	34				
IC. NO.	ITEM NO	[illegible]	[illegible]	[illegible]	

15. PERFORMANCE TEST PER C.C.P. SPEC. A0505-398.
14. REF. DES. NOT USED C5, C6, C9, C10, C11, C13.
13. ALL WIRE LENGTHS ARE IN FEET.
(11) 12 TAG LEADS.
(10) 11. MARK CONNECTOR DESIGNATIONS.
(9) 10. ALIGN SOCKETS WITH JIG OR ITEM 84 BEFORE SOLDERING.
(8) 9. SWAGE AND SOLDER TOP SIDE.
(7) 8. SWAGE AND SOLDER BOTH SIDE.
(6) 7. TIE WRAP AS REQUIRED.
(5) 6. TORQUE 6±1 INCH-POUNDS.
(4) 5. APPLY SILICONE GREASE BETWEEN RECTIFIER BRIDGE AND HEAT SINK
(3) 4. APPLY SILICONE GREASE TO BOTH SIDES OF INSULATOR.
(2) 3. FOR REFERENCE ONLY
2. RESISTOR VALUES ARE IN OHMS ±5% AND TYPE 1/4 WATT.
(1) 1 APPLY DASH NO & REVISION NO USING BLACK CHARACTERS PER CCP SPEC A0104-001

NOTE: UNLESS OTHERWISE SPECIFIED

REVISIONS			
REV	ZONE	DESCRIPTION	DATE & APPROVAL
0		PRODUCTION RELEASE (INTIAL RELEASE)	3-6-78
1		DELETED NOTE (2) FROM ITEMS 35-43. ITEM 89 (CR2) WAS (SCR1). ITEM 1 013880-0, 11505-206-009 WAS 368830-6, 11507-206-012. ITEM 5 QTY 8 WAS 4. ITEM 7 029510-5, 60010-206-166 WAS 171890-7, 60010-206-245. ITEM 15 I.C. NO. 173690-5 WAS 161650-7. ITEM 24 J1025 WAS J1020. REWORK ALL 0 REV BOARDS PER DO 1508 EFFECTIVITY DATE 3-6-78 CODE F	3-9-78 ECR 5786

03X	
	REF (CR2)
	REF C1, C3
-15	U3
	U4
-15	U2
	U1
	CR2
	K1
02	CR1001
	CR1
	SCR1
1	CR3,5,6,7
	CR4
5 50V	C15
%-20% 25V	C16,17
0%,35V	C7,8
,%,35V	C2,4,18
0%,10V	C14
50V	C1
50V	C3
, ±5% , 1/2W	R12
, ±5% , 2W	R5,6
Ω, ±5% , 1/2W	R3,4
, ±5% , 1/2W	R1,2
, ±5% , 1/2W	R7
, ±5% , 1/2W	R8
Ω, ±5% , 1/2W	R14
, ±5% , 1/4W	R10,11,13
±5% , 1/4W	R9
, ±5% , 1W	R15
WG, BLK, UL	
WG, WHT, UL	
G, WHT, UL	
, LT BLU, UL	
WG, GRY-YEL, UL	
WG, BRN, UL	
WG, BLK, UL	
WG, WHT, UL	
WG, RED, UL	
TC	MFR DWG

026830-0	33	3	12009-206-002	INSULATOR, MICA	DM 103	
443250-6	32	4	11553-206-001	LUG TERMINAL	FULL, INSULATED, BLU	REF CR1001
205930-1	31	6	80304-404-001	CONTACT-MALE	14/18 AWG, TINNED	REF P1040
216340-0	30	30	80303-404-001	CONTACT-FM	14/18 AWG, TINNED	REF J1010, 1020, 1050, 1060, 107
407000-9	29	1	30054-404-004	CONNECTOR	HEADER, 4 PIN	P1080
436660-6	28	1	80374-404-006		PLUG, 6 PIN	P1040
436620-9	27	1	80373-404-015		RECPT., 15 PIN	J1070
436570-6	26	1	80373-404-003		RECPT., 3 PIN	J1060
436560-7	25	1	80373-404-002		RECPT., 2 PIN	J1050
357680-8	24	1	80360-404-001		RECPT., 3 PIN	J1025
274580-0	23	1	80322-404-001	CONNECTOR	RECPT., 18 PIN	J1010
017810-3	22	2	40101-304-024	FUSE	5A, 3AG	F3,4
442760-5	21	2	40106-304-020	FUSE, SUB MIN.	GFA, 5A	F5,6
357720-2	20	2	40106-304-018	FUSE, SUB MIN.	GFA, 3A	F1,2
003460-3	19	3	13501-206-010	TEST JACK-BLK		TP3,6,8
003510-5	18	5	13501-206-004	TEST JACK-YEL		TP1 2 4 5 7
029620-2	17	4	60010-206-247	SCREW, PAN HD	6-32 x 3/8	
050590-9	16	1	50001-206-012	NUT, HEX	6-32	
173630-5	15	2	50003-206-008	NUT, HEX	4-40 SM. PAT.	
030070-7	14	5	74007-206-111	WASHER, SPLK	#6	
030060-8	13	2	74007-206-107	WASHER, SPLK	#4	
163750-3	12	6	74002-206-111	WASHER, FLAT	#6	
151840-6	11	3	74002-206-072	WASHER, FLAT	#4	
164890-8	10	4	10056-206-025	SCREW, TAP	6-20 x 1/2	
171910-3	9	1	60010-206-252	SCREW, PAN HD	6-32 x 7/8	
151800-0	8	1	60010-206-169	SCREW, PAN HD	4-40 x 1/2	
029510-5	7	1	60010-206-166	SCREW, PAN HD	4-40 x 5/16	
337220-5	6	4	43001-206-000	FUSE CLIP		REF F3,4
437990-5	5	8	11534-206-002	TERMINAL	NON-INSULATED, 13108	
451150-7	4	4	11534-206-100	STANDOFF, RUD	SWAGE, THREADED, 6-32 x 5/16	
422320-2	3		[illegible]	SOCKET	TRANSISTOR, TO-3	REF U2,3,4
443260-5	2	2	[illegible]-002	LUG TERMINAL	FULL, INSULATED, RED	J1030, 1031
013880-0	1	10	11505-206-009	LUG TERMINAL	RING, INSULATED	
440560-1	REV NO.	1	20867-502-000	ASSEMBLY		
I.C. NO.		REQD	PART OR IDENTIFYING NO.	NOMENCLATURE OR DESCRIPTION	MATERIAL SIZE, DESCRIPTION & SPECIFICATION	

LIST OF MATERIAL OR PARTS LIST

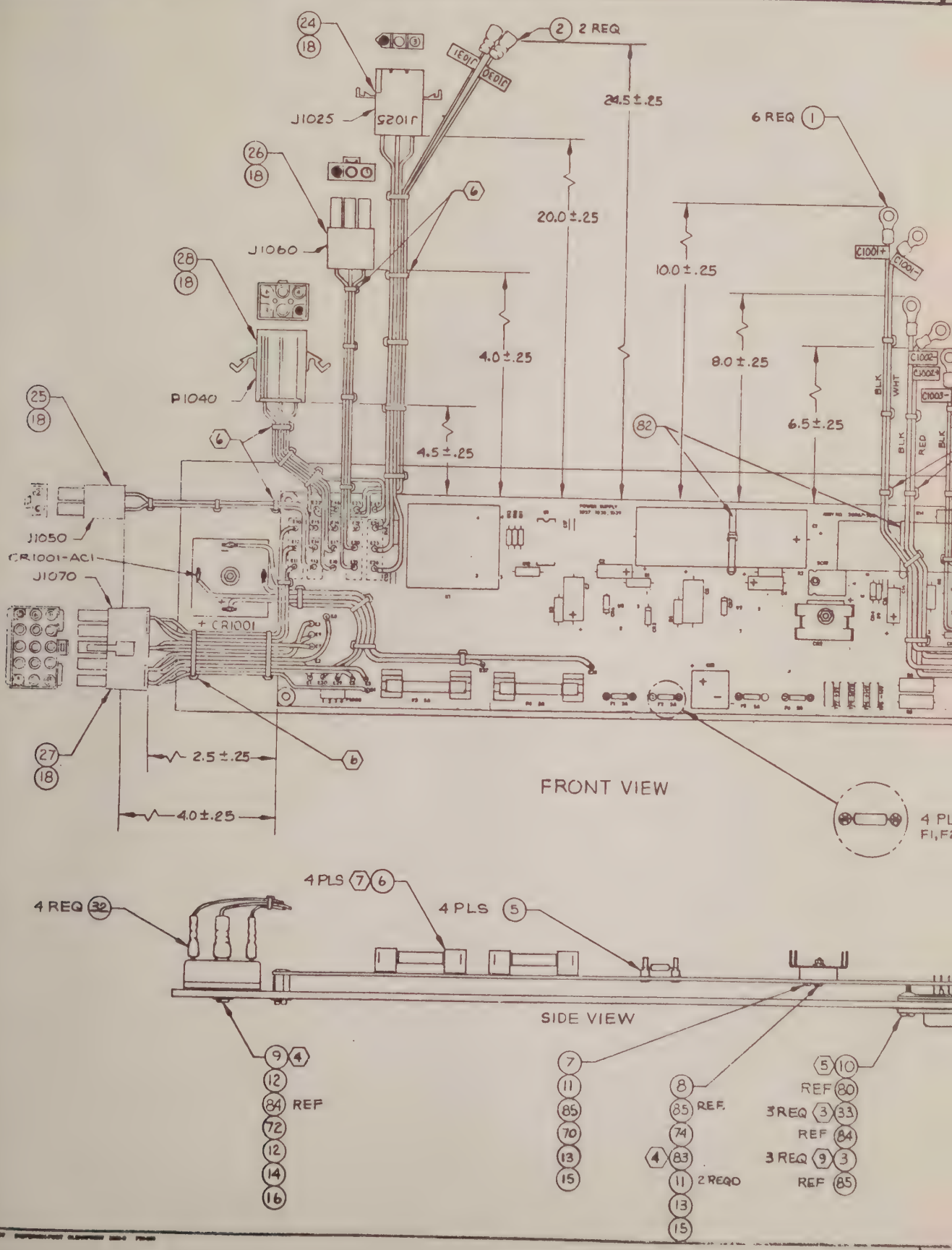
DIMENSIONS ARE IN INCHES TOLERANCES ON DECIMALS XX ± .03, XXX ± .010 ANGLES ± 0° 30' UNLESS OTHERWISE SPECIFIED	DRAWN BISCEGUA	5-24-77
	CHECK C.D.	10-20-77
	APPD	
	APPD	10-20-77
	APPD	
MODEL NO. 1037 1038 1039	FINISH	
NEXT ASSY. 20867-502-000	HEAT TREAT	
FIRST USAGE		

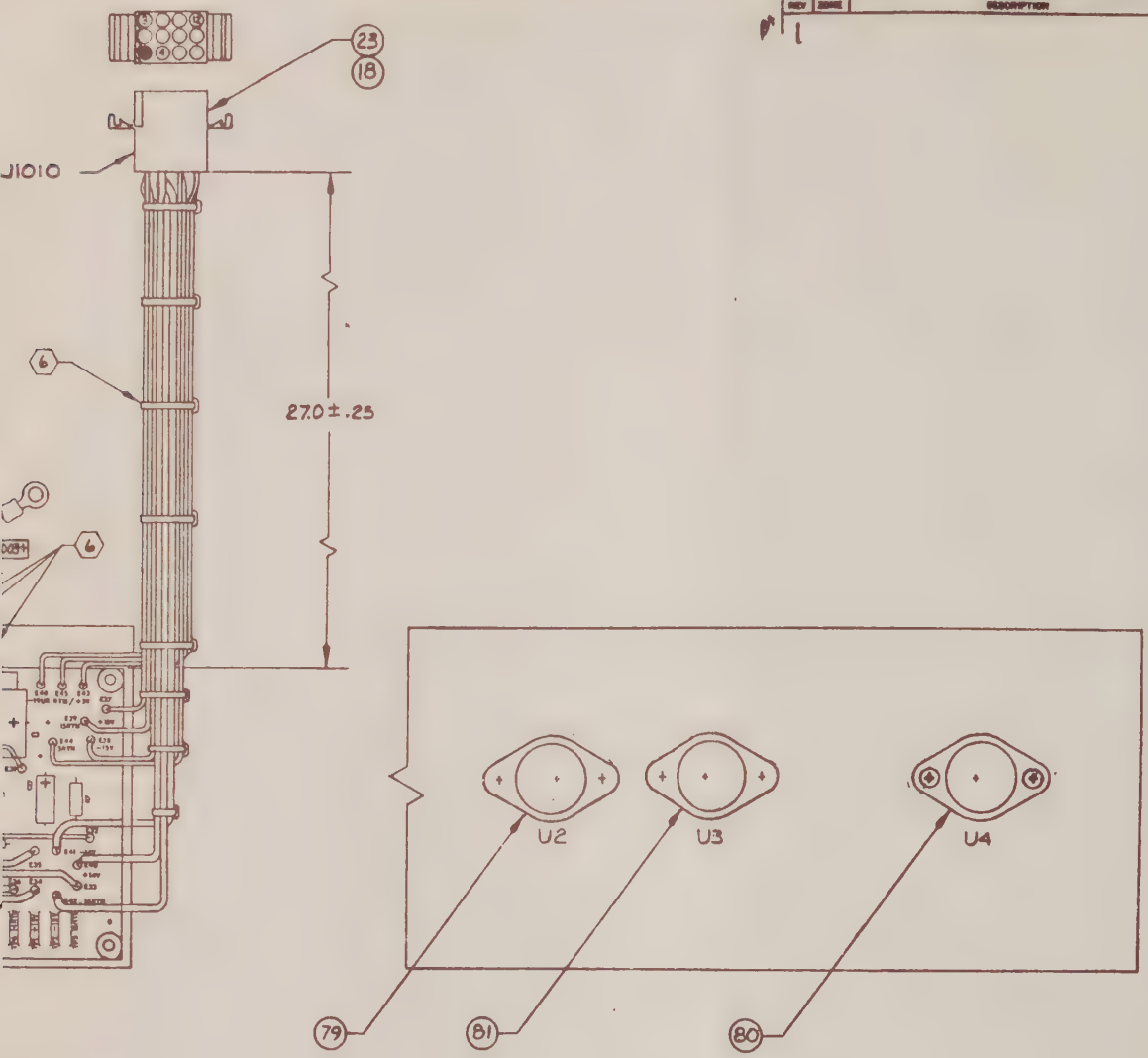
CALIFORNIA COMPUTER PRODUCTS INC.
□ 1270 NORTH KRAEMER BLVD. ANAHEIM, CALIFORNIA 92806
■ 2411 WEST LA PALMA, ANAHEIM, CALIFORNIA 92801

ASSEMBLY POWER SUPPLY 1037-1038-1039

SCALE:	SIZE	
NONE	D	20867-502-000

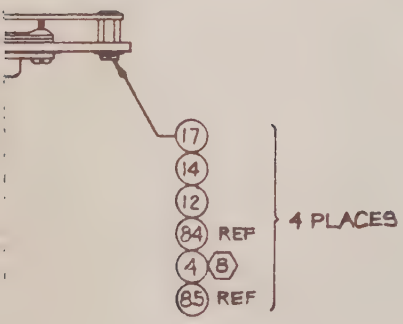
SHEET 1 OF 4


24
18
2
2 REQ
J1025
24.5 ± .25
6 REQ
1
26
18
20.0 ± .25
J1060
6
10.0 ± .25
28
18
4.0 ± .25
8.0 ± .25
P1040
6.5 ± .25
25
18
82
4.5 ± .25
J1050
CR1001-AC1
J1070
+ CR1001
27
18
2.5 ± .25
4.0 ± .25
FRONT VIEW
4 PLS
7
6
4 REQ
32
4 PLS
5
SIDE VIEW
9
4
12
84
REF
72
12
14
16
7
11
85
70
13
15
8
85
REF
74
4
83
11
2 REQD
13
15
5
10
REF
80
3 REQ
3
33
REF
84
3 REQ
9
3
REF
85



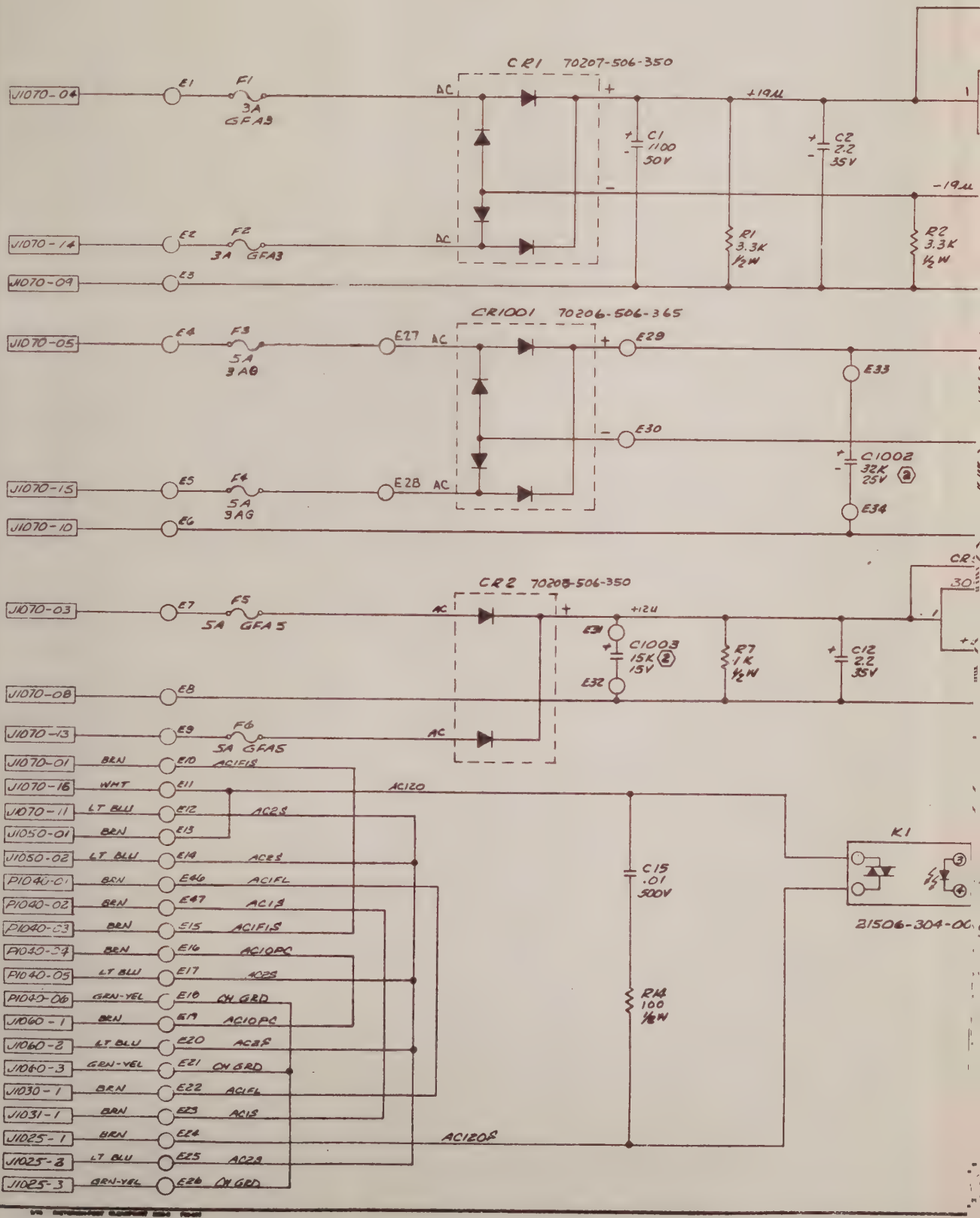
REAR VIEW

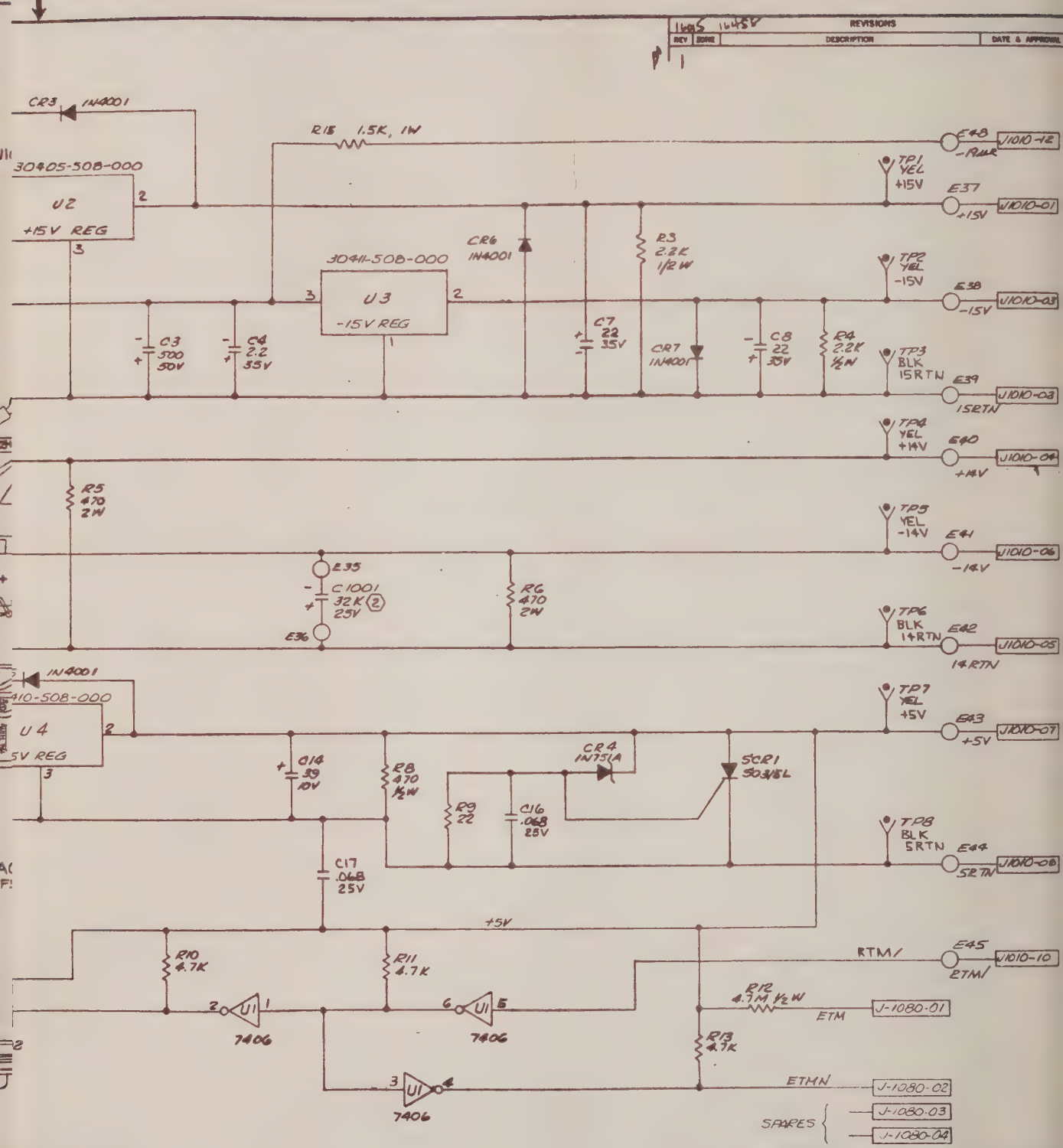
ACES
,F5,F6



CALIFORNIA COMPUTER PRODUCTS INC.	
ASSEMBLY POWER SUPPLY 1037/1038/1039	
SCALE:	SIZE D — 20867-502-000
	SHEET 2 OF 4

20867-502-000


CR1 70207-506-350
J1070-04
E1
F1
3A GFA3
AC
+
+19.4
C1 1100 30V
C2 2.2 35V
-19.4
J1070-14
E2
F2
3A GFA3
AC
R1 3.3K ½W
R2 3.3K ½W
J1070-09
E3
CR1001 70206-506-365
J1070-05
E4
F3
5A 3AG
E27
AC
+
E29
E33
E30
C1002 32K 25V (2)
J1070-15
E5
F4
5A 3AG
E28
AC
E34
J1070-10
E6
CR2 70208-506-350
J1070-03
E7
F5
5A GFA5
AC
+
+12V
E31
C1003 15K (2) 15V
E32
R7 1K ½W
C12 2.2 35V
J1070-08
E8
J1070-13
E9
F6
5A GFA5
AC
J1070-01 BRN E10 AC1FIS
J1070-16 WHT E11
J1070-11 LT BLU E12 AC2S
J1050-01 BRN E13
J1050-02 LT BLU E14 AC2S
P1040-01 BRN E46 AC1FL
P1040-02 BRN E47 AC1S
P1040-03 BRN E15 AC1FIS
P1040-04 BRN E16 AC1OPC
P1040-05 LT BLU E17 AC2S
P1040-06 GRN-YEL E18 CH GRD
J1060-1 BRN E19 AC1OPC
J1060-2 LT BLU E20 AC2S
J1060-3 GRN-YEL E21 CH GRD
J1030-1 BRN E22 AC1FL
J1031-1 BRN E23 AC1S
J1025-1 BRN E24
J1025-2 LT BLU E25 AC2S
J1025-3 GRN-YEL E26 CH GRD
AC1
AC1OR
C15 .01 500V
R14 100 ½W
K1
21506-304-00



REF DES	+5V	GRD
U1	14	7

CALIFORNIA COMPUTER PRODUCTS INC.
□ 1270 NORTH KRAEMER BLVD, ANAHEIM, CALIFORNIA 92806
■ 2411 WEST LA PALMA, ANAHEIM, CALIFORNIA 92801

ASSEMBLY POWER SUPPLY 1037, 1038, 1039

SCALE:	SIZE	
NONE	D	20867-502-000

REVISIONS			
REV	DATE	DESCRIPTION	DATE & APPROVAL
		16015 16458	
		1	

WIRE LIST

WIRE NO.	ITEM NO.	FROM	TO	TERM'N	REMARK	LENGTH
1	42	E1	J1070-4	30		
2		E2	-14			
3		E3	-9			
4		E4	-5			
5		E5	-15			
6		E6	-10			
7		E7	-3			
8		E8	-8			
9	42	E9	-13			
10	38	E10	-1			
11	41	E11	-6			
12	40	E12	J1070-11			
13	38	E13	J1050-1			
14	40	E14	J1050-2	30		
15	38	E15	P1040-3	31		
16	38	E16	P1040-4	31		
17	40	E17	P1040-5	31		
18	39	E18	P1040-6	31		
19	38	E19	J1060-1	30		
20	40	E20	J1060-2	30		
21	39	E21	J1060-3	30		
22	38	E22	J1030-1	2		
23	38	E23	J1031-1	2		
24	38	E24	J1025-1	30		
25	40	E25	J1025-2	30		
26	39	E26	J1025-3	30		
27	48	E27	CR1001 A C1	32		
28	48	E28	CR1001 A C2	32		
29	42	E29	CR1001+	32		
30	42	E30	CR1001-	32		
31	42	E31	C1003+	1		
32	43	E32	C1003-			
33	35	E33	C1002+			
34	37	E34	C1002-			
35	36	E35	C1001-			
36	37	E36	C1001+	1		
37	42	E37	J1010-1	30		
38	42	E38	-3			
39	43	E39	-2			
40	35	E40	-4			
41	36	E41	-6			
42	37	E42	-5			
43	42	E43	-7			
44	43	E44	-8			
45	41	E45	J1010-10	30		
46	38	E46	P1040-01	31		
47	38	E47	P1040-02	31		
48	41	E48	J1010-12	30		

CALIFORNIA COMPUTER PRODUCTS INC.
1220 NORTH KRAEMER BLVD, ANAHEIM, CALIFORNIA 92806
2421 WEST LA PALMA, ANAHEIM, CALIFORNIA 92801

ASSEMBLY
POWER SUPPLY
1037 1038 1039

SCALE:	SIZE	
NONE	D	20867-502-000

WIRE LIST

WIRE		FROM	TO			
ITEM NO.	WIRE NO	ITEM & TERM	ITEM & TERM	TERM	LENGTH	REMARKS
12	1	PCB1-E21	J2040-1	PMF	8"	22 AWG
12	2	PCB1-E20	J2040-2	PMFR	8"	
12	3	PCB1-E23	J2040-4	PMR	8"	
12	4	PCB1-E22	J2040-5	PMRR	8"	
12	5	PCB1-E19	J2040-7	XNB	6"	
12	6	PCB1-E2	J2040-9	YNB	16"	
	7	PCB1-E18	Q1-E	MSNX	4"	
	8	PCB1-E17	Q1-B	MPXAN	4"	
	9	PCB1-E15	Q2-B	MPXAP	4"	
	10	PCB1-E16	Q2-E	MSPX	4"	
	11	Q1-C	Q2-C	COMM1 COLL(XMA)	3"	
12	12	Q2-C	J2040-3	XMA	10"	
	13	PCB1-E5	Q3-E	MSNY	6"	
	14	PCB1-E4	Q3-B	MPYAN	6"	
	15	PCB1-E3	Q4-B	MPYAP	5"	
	16	PCB1-E1	Q4-E	MSYP	6"	
	17	Q3-C	Q4-C	COMM COLL(YMA)	3"	
12	18	Q4-C	J2040-8	YMA	14"	
11	19	PCB1-E6	P2010-1	+15V	10"	
11	20	PCB1-E7	P2010-5	15 RTN	8"	
11	21	PCB1-E8	P2010-3	-15V	10"	22 AWG
11	22	PCB1-E12	P2010-4	+14V	10"	16 AWG
11	23	PCB1-E13	P2010-2	14 RTN	9"	
11	24	PCB1-E14	P2010-6	-14V	10"	
11	25	PCB1-E10	P2010-7	+5V	12"	
11	26	PCB1-E11	P2010-8	GRD	8"	16 AWG
11	27	PCB1-E9	P2010-10	RTM1	11"	22 AWG
11	28	PCB1-E24	P2010-12	-15UNREG	9"	22 AWG

(7) 9. WIRE WRAP AND IDENTIFY ASSY WITH WIRE LIST P/N 10919-406-000 REV 2 USING BLK CHAR PER CCP SPEC A0104-001.
8. PERFORMANCE TEST PER C.C.P. SPEC. A0505-399.
(6) 7. INSTALL PER CCP SPEC A0305-002
6. TIE WRAP AS REQUIRED.
5. ASSEMBLY FIXTURES SHALL PROVIDE FOR THE REQUIRED ASSEMBLY POSITIONAL TOLERANCE.
(5)(4) 4. PARALLEL WITHIN .010 T.I.R.
(3) 3 NORMAL WITHIN .010 T.I.R.
(2) 2. STRAIGHT WITHIN .005 IN/IN AND NOT TO EXCEED .030 T.I.R.
(1) 1. APPLY DASH NO. AND REV USING BLACK CHAR. PER CCP SPEC. A0104-001
NOTES: UNLESS OTHERWISE SPECIFIED

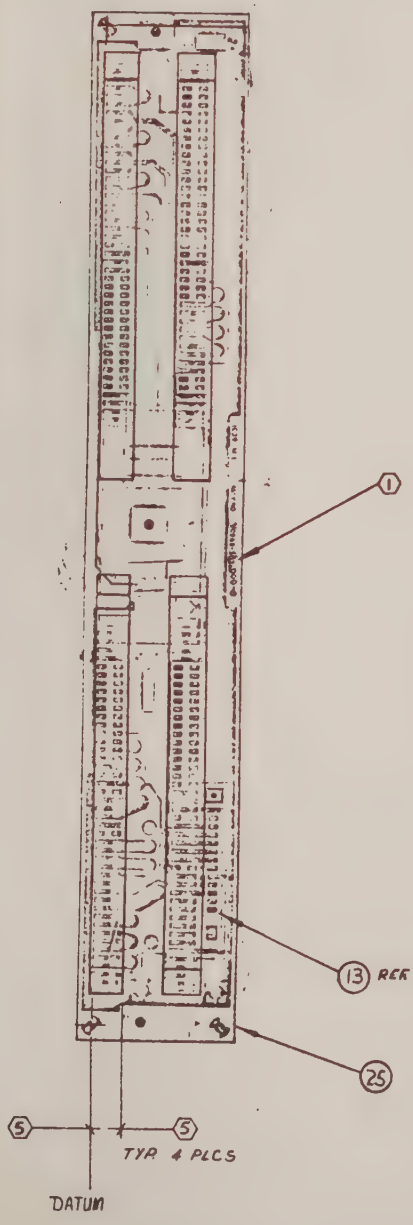
REVISIONS			
REV	ZONE	DESCRIPTION	DATE & APPRD
0		PROD. RELEASE WAS ENGINEERING ONLY DWG NO. 20868-502-000-0 WAS X20868-502-000A	
1		1 REVISED GENERAL NOTE 9 TO ADD REV LEVEL AND INDENTIFICATION OF WIRE LIST NO. TO ASSY EFFECTIVITY DATE 2-20 CODE F 2 GENERAL NOTE 9, REV 2 WAS REV 1 EFFECTIVITY DATE 5-8 CODE B	ECR 5702 ECR 5751

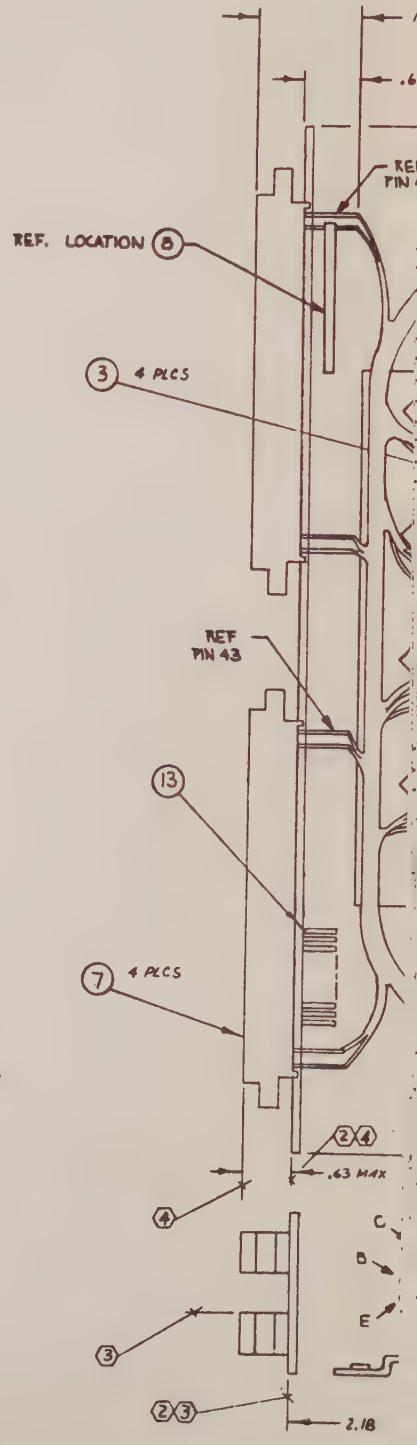
16009 15919 16479

ITEM NO	REQD	PART OR IDENTIFYING NO.	NOMENCLATURE OR DESCRIPTION	MATERIAL SIZE, DESCRIPTION & SPECIFICATION		
442070-9	1	20868-502-000	103X MIB			
IC NO						
443790-1	25	1	20868-512-000	PWB 103X MIB			
	24						
397680-0	23	2	20420-507-000	TRANSISTOR	2N6057	Q2,4	
397670-1	22	2	20317-507-000	TRANSISTOR	2N6050	Q1,3	
	21						
226370-5	20	4	10502-505-450	CAPACITOR	0.01 UF 10% 100V		
	19						
(7) 447150-4	18	1	10919-406-000	WIRE LIST	CONT. NO 833		
	17						
228320-8	16	3'	10302-405-143	WIRE, WHITE	16 AWG	UL 1429	
226450-5	15	10'	10302-405-140	WIRE, WHITE	22 AWG	UL 1429	
	14						
346140-7	13	12	80775-404-001	WRAP POST	.025 SQ.	J2020 1-12	
218440-6	12	8	80354-404-001	CONTACT, FEMALE	J2040 1-5, 7-9		
218430-7	11	10	80353-404-001	CONTACT, MALE	P2010 1-8, 10, 12		
301120-2	10	1	80321-404-002	HOUSING, PLUG	P2010		
2366904	9	1	80320-404-002	CONN., RECPT.	J2040		
438190-1	8	1	60046-404-002	HEADER, KEYING			
327520-3	7	4	30032-404-001	CONN, PC B 43/86	WRAP POST		
	6						
330070-7	5	8	74007-206-111	L WASHER, SPLIT	#6		
029620-2	4	8	60010-206-247	SCREW, PAN HD.	6-32 X 3/8		
190160-2	3	4	12015-206-001	SOCKET, TRANSISTOR			
	2						
442060-0	1	1	21729-203-000	BRACKET, HEAT SINK			

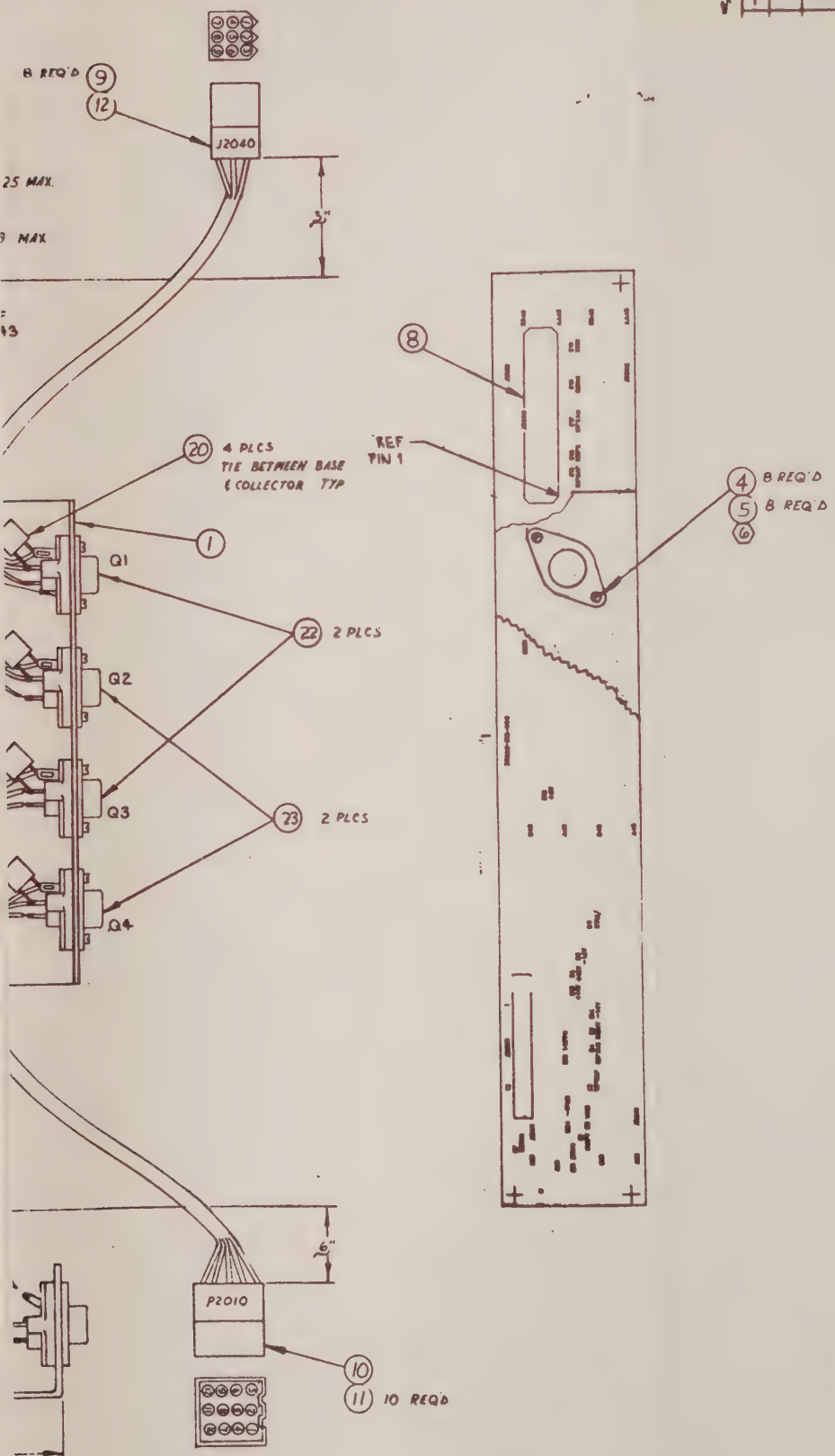
LIST OF MATERIAL OR PARTS LIST

DIMENSIONS ARE IN INCHES TOLERANCES ON DECIMALS .XX ± .03, .XXX ± .010 ANGLES ± 0° 30' UNLESS OTHERWISE SPECIFIED	DRAWN JESSE	8-22-77	CALIFORNIA COMPUTER PRODUCTS INC. □ 1270 NORTH KRAEMER BLVD, ANAHEIM, CALIFORNIA 928 ■ 2411 WEST LA PALMA, ANAHEIM, CALIFORNIA 92801
	CHECK C.D. Jeffries	9-19-77	
	APPD		103X MIB-ASSY
	APPD		
	APPD		
MODEL NO. 103X	FINISH		SCALE: FULL
NEXT ASSY 410530-310-000	HEAT TREAT		SIZE F 20868-502-00
FIRST USAGE			SHEET 1 OF


1
13 REF
25
5
5
TYP 4 PLCS
DATUM


REF. LOCATION 8
3 4 PLCS
REF PIN 43
13
7 4 PLCS
24
.63 MAX
4
C
B
E
3
23
2.18

REVISIONS			
REV	ZONE	DESCRIPTION	DATE & APPROVAL
1		SEE SHEET 1 FOR REVISION	



CALIFORNIA COMPUTER PRODUCTS INC.
□ 1270 NORTH KRAEMER BLVD, ANAHEIM, CALIFORNIA 92805
■ 2411 WEST LA PALMA, ANAHEIM, CALIFORNIA 92801

103X MIB - ASSY

SCALE:	SIZE	
FULL	D	20868-502-000

SHEET 2 OF 4

20868-502-000

J2101
-A01
-A02
-A03
-A04
GRD
-A05
PENCOIL3
-A06
-A07
-15V
-A08
-A09
+15V
-A10
-A11
+VP
-A12
PENRET3
-A13
-A14
-VP
-A15
+15RY
-A16
PENCOIL2
-A17
PENRET2
-A18
PENCOIL1
-A19
PENRET1
-A20
GRD
-A21
-A22
-A23
-A24
GRD-P
-A25
-A26
-A27
-A28
-A29
-A30
-A31
-A32
-A33
-A34
-A35
-A36
-A37
-A38
-A39
-A40
-A41
GRD
-A42
-A43
+5V
J2101
-B01
-B02
-B03
-B04
GRD
-B05
PENCOIL3
-B06
-B07
-15V
-B08
-B09
+15V
-B10
-B11
+VP
-B12
PENRET3
-B13
-B14
-VP
-B15
+15RY
-B16
PENCOIL2
-B17
PENRET2
-B18
PENCOIL1
-B19
PENRET1
-B20
GRD
-B21
-B22
-B23
-B24
GRD-P
-B25
-15 UNREG
-B26
PDS
-B27
PUS
-B28
M2/
-B29
M1/
-B30
M3/
-B31
MAN/
-B32
YINM
-B33
XINM
-B34
YINP
-B35
MXMSW/
-B36
MXPSW/
-B37
MYMSW/
-B38
MYPSW/
-B39
SELECT
-B40
-B41
GRD
-B42
-B43
+5V
J2102
-AA01
-AA02
+5V
-AA03
-AA04
GRD
-AA05
RST/
-AA06
-AA07
GRD-M
-AA08
-VM
-AA09
+VM
-AA10
-AA11
PMRRET
-AA12
PMR
-AA13
-AA14
PMFRET
-AA15
PMF
-AA16
CLK
-AA17
+5V
-AA18
PENFORCE1
-AA19
PENFORCE2
-AA20
GRD
-AA21
MXMSW/
-AA22
MYPSW/
-AA23
M3/
-AA24
M1/
-AA25
M2/
-AA26
MAN/
-AA27
MYMSW/
-AA28
MYPSW/
-AA29
16 KHZ
-AA30
-AA31
GRD
-AA32
+5V
-AA33
GRD
-AA34
YAENC
-AA35
YBENC
-AA36
+15V
-AA37
-15V
-AA38
PSF
-AA39
+15V
-AA40
PSR
-AA41
-AA42
-AA43
GRD
J2102
-BB01
-BB02
+5V
-BB03
-BB04
GRD
-BB05
MRSTSW/
-BB06
-BB07
GRD-M
-BB08
-VM
-BB09
+VM
-BB10
-BB11
PMRRET
-BB12
PMR
-BB13
-BB14
PMFRET
-BB15
PMF
-BB16
XINP
-BB17
+5V
-BB18
-BB19
PENFORCE3
-BB20
GRD
-BB21
RESET/
-BB22
MRSTSW/
-BB23
RDY/
-BB24
LIMYP
-BB25
LIMXP
-BB26
8 KHZ
-BB27
4 KHZ
-BB28
LIMXM
-BB29
LIMYM
-BB30
XAENC
-BB31
XBENC
-BB32
+5V
-BB33
-BB34
-BB35
-BB36
-BB37
GRD
-BB38
PSF
-BB39
+15V
-BB40
PSR
-BB41
-BB42
-BB43
GRD
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-A01
-A02
-A03
-A04
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-A36
-A37
-A38
-A39
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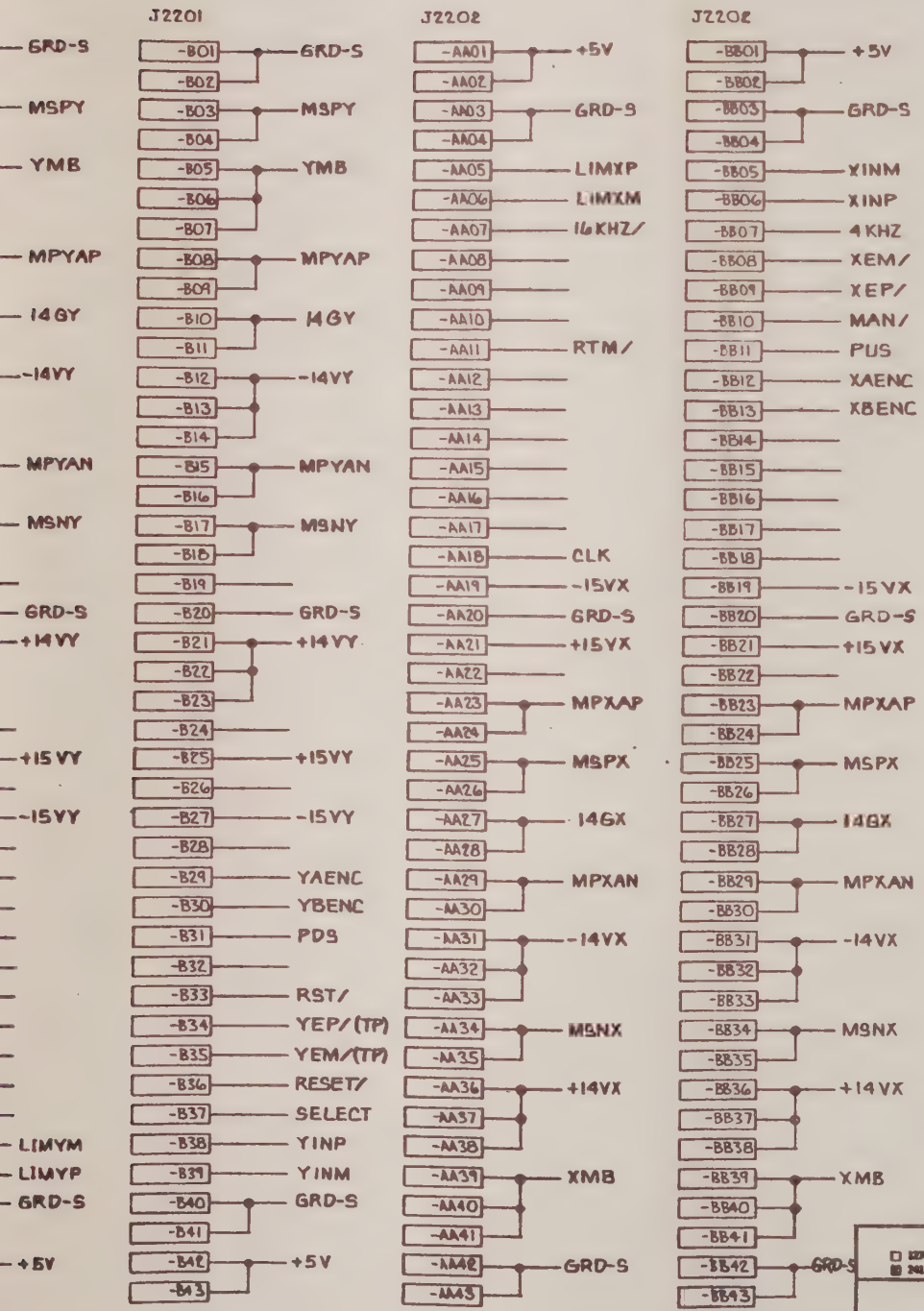
-A41
-A42
-A43

REVISIONS			
REV	ZONE	DESCRIPTION	DATE & APPROVAL
A		SEE SHT ONE FOR REVISION	



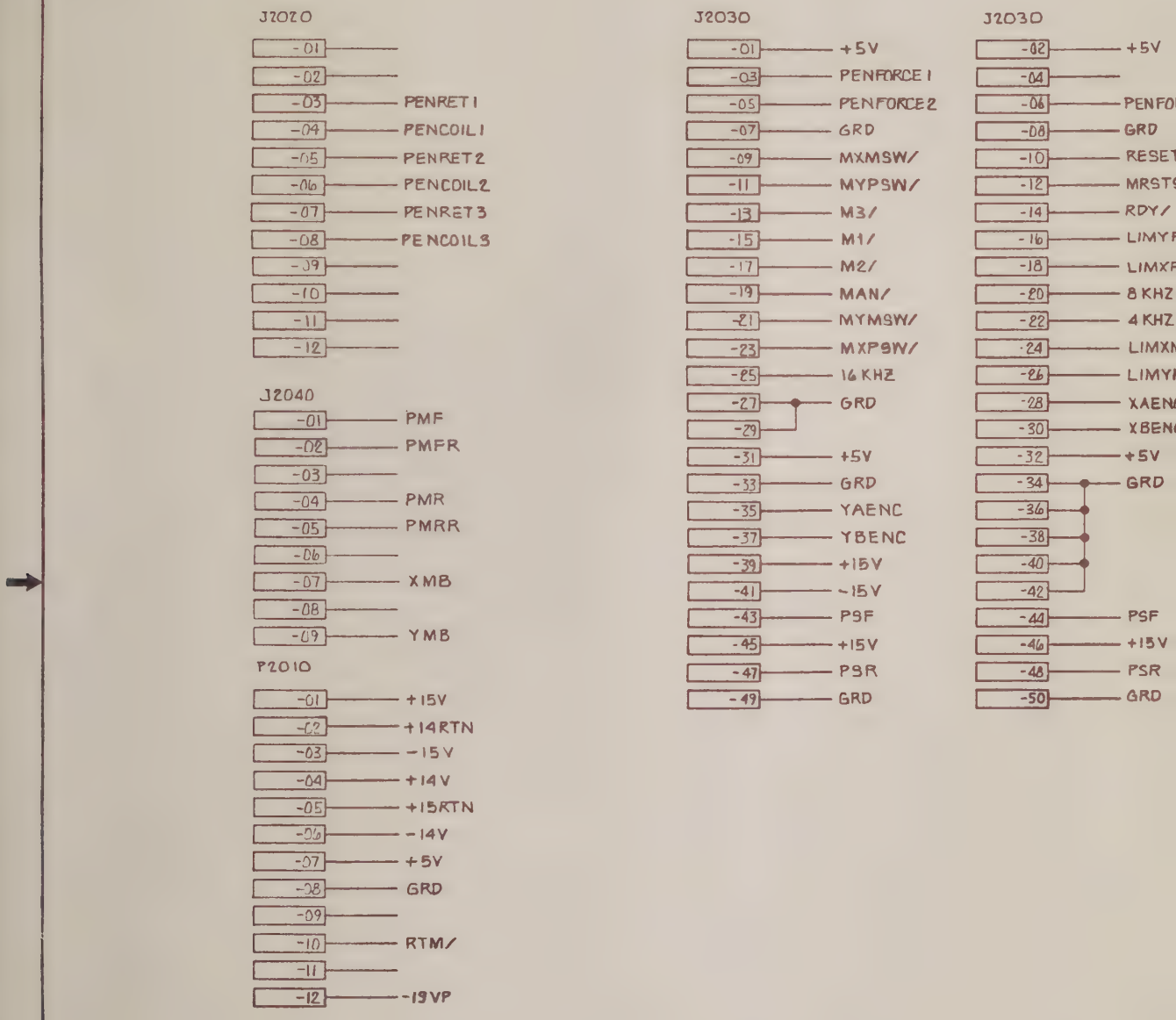
CALIFORNIA COMPUTER PRODUCTS INC.
☐ 2270 NORTH KRAEMER BLVD, ANAHEIM, CALIFORNIA 92806
☒ 2411 WEST LA PALMA, ANAHEIM, CALIFORNIA 92801

ASSEMBLY —
103X MIB

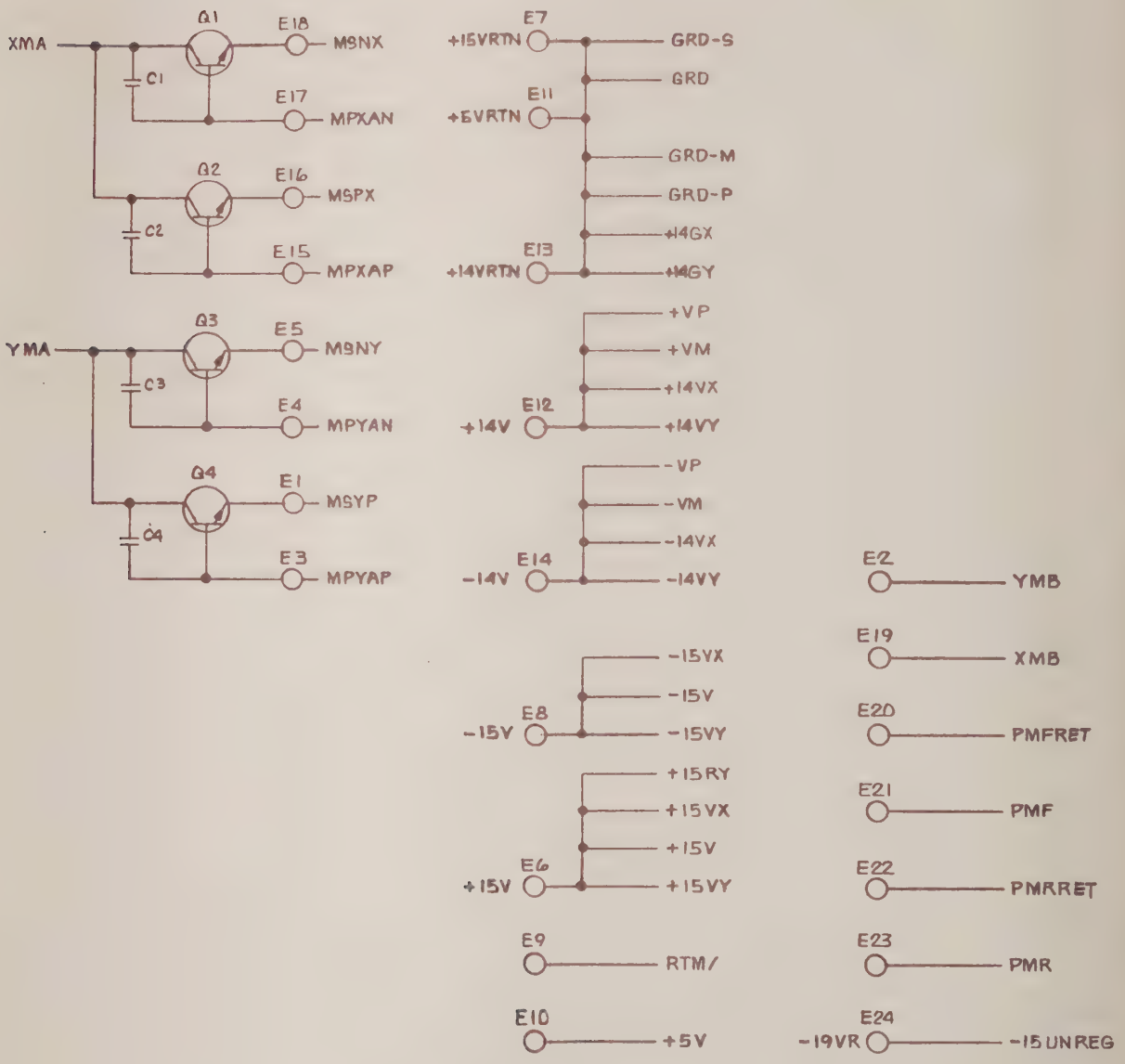
SCALE:	SIZE	
NONE	D	20868-502-000

SHEET 3 OF 4

20868-502-000 | 1


J2020
-01
-02
-03 PENRET1
-04 PENCOIL1
-05 PENRET2
-06 PENCOIL2
-07 PENRET3
-08 PENCOIL3
-09
-10
-11
-12
J2040
-01 PMF
-02 PMFR
-03
-04 PMR
-05 PMRR
-06
-07 XMB
-08
-09 YMB
P2010
-01 +15V
-02 +14RTN
-03 -15V
-04 +14V
-05 +15RTN
-06 -14V
-07 +5V
-08 GRD
-09
-10 RTM/
-11
-12 -19VP
J2030
-01 +5V
-03 PENFORCE1
-05 PENFORCE2
-07 GRD
-09 MXMSW/
-11 MYPSW/
-13 M3/
-15 M1/
-17 M2/
-19 MAN/
-21 MYMSW/
-23 MXPSW/
-25 16 KHZ
-27 GRD
-29
-31 +5V
-33 GRD
-35 YAENC
-37 YBENC
-39 +15V
-41 -15V
-43 PSF
-45 +15V
-47 PSR
-49 GRD
J2030
-02 +5V
-04
-06 PENFO
-08 GRD
-10 RESE
-12 MRST
-14 RDY/
-16 LIMY
-18 LIMX
-20 8 KHZ
-22 4 KHZ
-24 LIMX
-26 LIMY
-28 XAEN
-30 XBEN
-32 +5V
-34 GRD
-36
-38
-40
-42
-44 PSF
-46 +15V
-48 PSR
-50 GRD

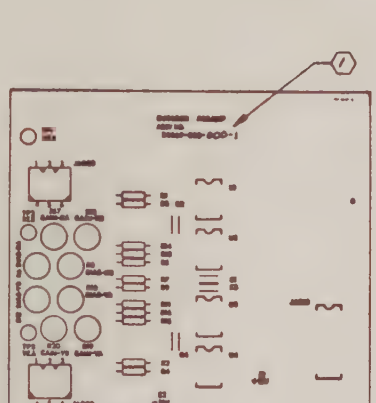
REVISIONS			
REV	ZONE	DESCRIPTION	DATE & APPROVAL
A		SEE SHEET 1 FOR REVISION	



CALIFORNIA COMPUTER PRODUCTS INC.
1270 NORTH KRAEMER BLVD, ANAHEIM, CALIFORNIA 92805
2411 WEST LA PALMA, ANAHEIM, CALIFORNIA 92801

ASSEMBLY
103X MIB

SCALE:	SIZE	
NONE	D	20868-502-000
		SHEET 4 OF 4



4. CAPACITOR VALUES
   ARE RATED AT 25
3. RESISTOR VALUES
(1) 2. APPLY DASH NO.
   CHARACTERS PE
1. PERFORMANCE T

NOTE : UNLES

B815,1647

REVISIONS			
REV	ZONE	DESCRIPTION	DATE & APPROVAL
0		PRODUCTION RELEASE	
1		L/M ADDED 10507-505-190 QTY.4 30307-508-000 WAS 30306-508 000 EFFECTIVITY; B 11-7-77	ECR 5456 & 5484 B. CULLUM 11-8-77

ITEM NO.		REQD	PART OR IDENTIFYING NO.	NOMENCLATURE OR DESCRIPTION	MATERIAL SPEC, DESCRIPTION & SPECIFICATION	ZONE
I.C. NO.						
440700-3	ITEM NO. 1	1	20869-502-000	ASSEMBLY		
	1					
064580-4	3	1	13505-206-002	TEST JACK	VERTICAL, RED	TP2
064620-8	2	1	13505-206-001	TEST JACK	VERTICAL, BRN	TP1
064600-0	4	1	13505-206-003		" ORG	TP3
064610-9	5	1	13505-206-004		" YEL	TP4
272160-3	6	1	13505-206-005		" GRN	TP5
247400-5	7	1	13505-206-006		" BLU	TP6
344270-4	8	1	13505-206-007		" VIO	TP7
272170-2	9	1	13505-206-008		" GRAY	TP8
077000-8	10	1	13505-206-010	TEST JACK	VERTICAL, BLK	TP9
	11					
	12					
374210-3	13	1	50023-404-001	SOCKET, IC	SOLDER TAIL, 16 CONT	J6010
	14					
213020-1	15	2	80334-404-003	HOUSING	RCPT, THRU, 6 CONT	J6030, J6070
	16					
303450-1	17	4	10507-505-190	CAPACITOR	.068 mf +50-20% 25V	C1-C4
	18					
079630-0	19	8	10212-504-450	RESISTOR	10KΩ, ±5%, ¼W	R1-R4, R13-R16
108900-2	20	4	10212-504-500	RESISTOR	100KΩ, ±5%, ¼W	R5, 7, 9, 11
349530-6	21	4	40209-504-484	POTENTIOMETER	50KΩ, ±20%, ½W	R6, 8, 10, 12
353990-5	22	4	40209-504-500	POTENTIOMETER	100KΩ ±20%, ½W	R17-R20
	23					
	24					
	25					
272530-7	26	4	30307-508-000	INTEGRATED CIRCUIT	741 TC	U1-U4
	27					
444010-3	28	10	80362-404-001	CONTACT, FEMALE	.062 DIA PC TAIL	MOLEX
	29					
443800-8	30	1	20869-512-000	PRINTED BOARD		

LIST OF MATERIAL OR PARTS LIST

DIMENSIONS ARE IN INCHES
TOLERANCES ON
DECIMALS .XX ± .03, .XXX ± .010
ANGLES ± 0° 30'
UNLESS OTHERWISE SPECIFIED

MODEL NO. 1037, 1038, 1039

NEXT ASSY

FIRST USAGE

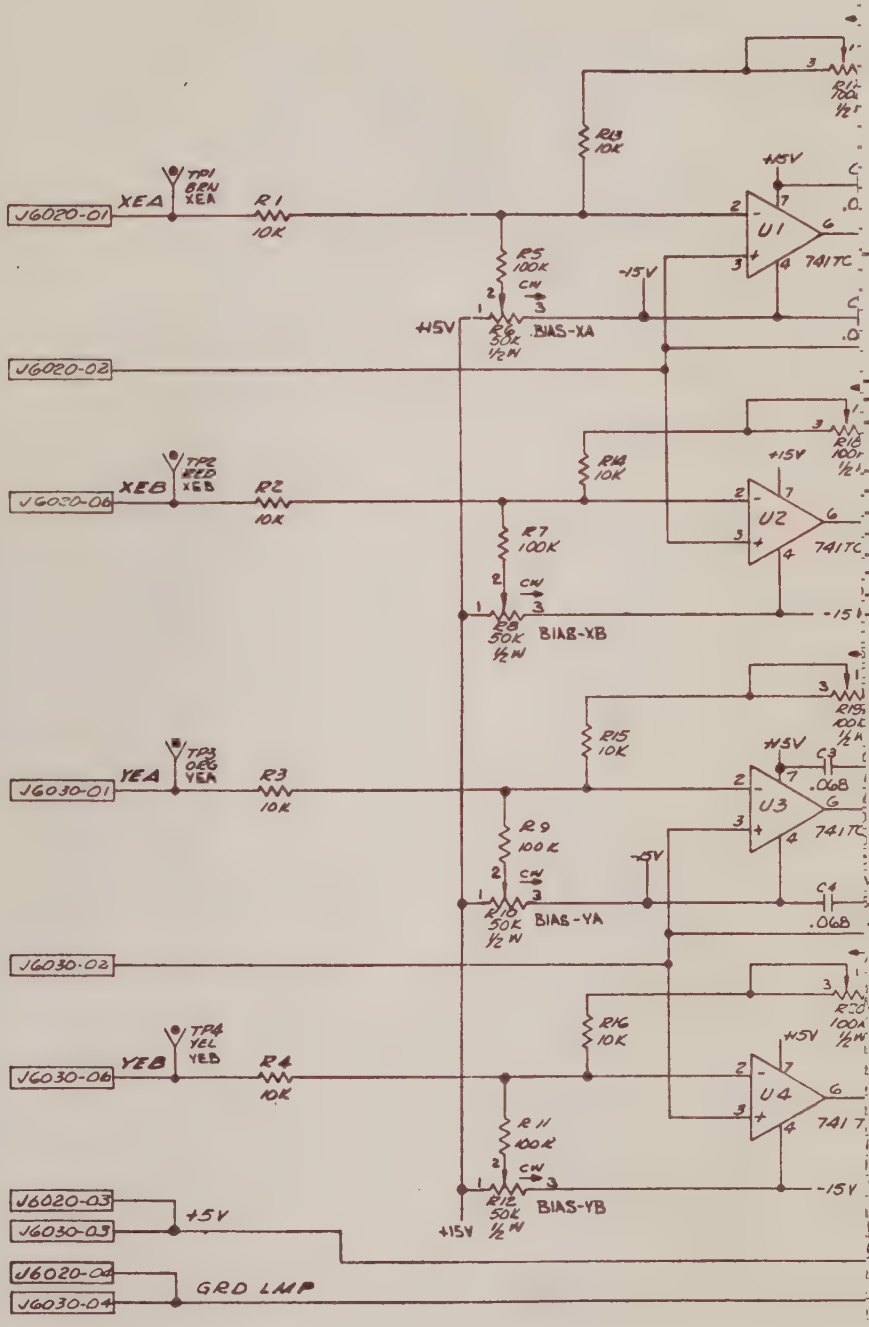
DRAWN GAUTER 5/17/77
CHECK C. DeJeffus 7/18/77
APPD [signature] 7/28/77
APPD
APPD
FINISH
HEAT TREAT

CALIFORNIA COMPUTER PRODUCTS INC.
(1) 1250 NORTH KRAEMER BLVD, ANAHEIM, CALIFORNIA 92806
(2) 2411 WEST LA PALMA, ANAHEIM, CALIFORNIA 92801

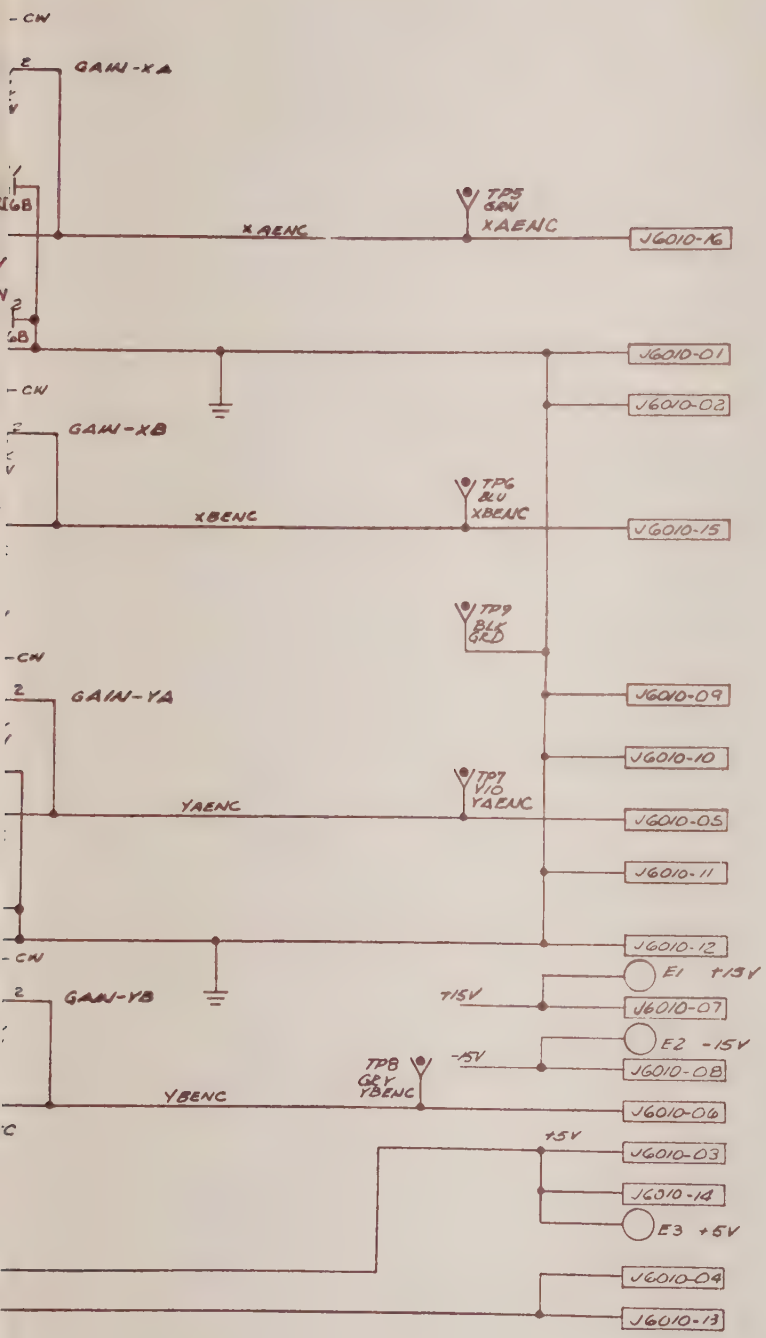
ASSEMBLY - I NODER PREAMP

SCALE: NONE
SIZE: D
20869-502-000
SHEET 1 OF 2

S ARE IN MICROFARADS +50 -20% AND VOLTS.
ARE IN OHMS ±5% AND ARE 1/4 WATT.
AND REVISION NO. USING WHITE
R CCP SPEC A0104-001.
EST PER CCP SPEC A0505-400
SS OTHERWISE SPECIFIED


J6020-01
XEA
TP1 BRN XEA
R1 10K
R13 10K
+15V
U1
741TC
R5 100K CW
BIAS-XA
50K ½W
-15V
J6020-02
J6020-06
XEB
TP2 RED XEB
R2 10K
R14 10K
U2
R7 100K
BIAS-XB
J6030-01
YEA
TP3 ORG YEA
R3 10K
R15 10K
U3
C3 .068
C4 .068
R9 100K
BIAS-YA
J6030-02
J6030-06
YEB
TP4 YEL YEB
R4 10K
R16 10K
U4
R11 100K
R12 50K ½W
BIAS-YB
J6020-03
J6030-03
+5V
J6020-04
J6030-04
GRD LMP

REVISIONS			
REV	ZONE	DESCRIPTION	DATE & APPROVAL
1		SEE FACE OF DRAWING FOR REV.	



CALIFORNIA COMPUTER PRODUCTS INC.
☐ 1270 NORTH KRAEMER BLVD, ANAHEIM, CALIFORNIA 92806
■ 2411 WEST LA PALMA, ANAHEIM, CALIFORNIA 92801

ASSEMBLY- ENCODER PREAMP

SCALE:	SIZE	
NONE	D	20869-502-000
		SHEET 2 OF 2

	ITEM NO.	REQD	PART OR IDENTIFYING NO.	NOMENCLATURE OR DESCRIPTION	SIZE
	111		20872-512-000	PRINTED BOARD	
286210-0	110	2	10370-508-000	INTEGRATED CKT	7404
403560-4	109	2	50311-508-000	INTEGRATED CKT	CD4051A
397700-6	108	1	30316-508-000		MC3302P
346490-1	107	3	30311-508-000		NE555
272530-7	106	5	30307-508-000		741TC
416290-5	105	3	10528-508-000		74LS20
416130-3	104	1	10525-508-000		74LS175
416120-4	103	2	10524-508-000		74LS42
411680-2	102	5	10515-508-000		74LS02
411780-0	101	3	10508-508-000		74LS161
411620-8	100	7	10503-508-000		74LS109
411540-8	99	4	10494-508-000		74LS10
411510-1	98	2	10491-508-000		74LS04
409780-4	97	8	10486-508-000		74LS00
341450-5	96	3	10421-508-000		9615
341440-6	95	1	10420-508-000		9614
341420-8	94	1	10418-508-000		7406
272580-2	93	5	10354-508-000	INTEGRATED CKT	9602
397470-6	92	1	10469-508-000	INTEGRATED CKT	74S158
397680-0	91	3	20420-507-000	TRANSISTOR	2N6057
357870-5	90	2	20413-507-000		MJE800
397670-1	89	3	20317-507-000		2N6050
357880-4	88	2	20308-507-000		MJE700
003910-9	87	5	10404-507-000		2N3566
003840-6	86	5	10304-507-000	TRANSISTOR	2N3645
	85				
033690-9	84	8	10201-506-000	DIODE	IN914
225140-3	83	2	10202-505-316	CAPACITOR	22 UF, ± 10%, 10
303450-1	82	48	10507-505-190	CAPACITOR	.068 UF, +50-20%
—	—	—	—	—	—
328440-3	81	2	10503-505-516		0.22 UF, ± 10%, 5
226070-1	80	5	10503-505-500		.1UF, ±10%, 10
226370	79	5	10502-505-450		.01UF, ± 10%,
033570-8	78	1	10502-505-394		820 PF, ± 10%, 2
	77				
073690-0	76	4	10204-505-325		33UF, ± 10%, 2
000550-4	75	2	10204-505-308		15 UF, ± 10%, 2
000540-5	74	2	10204-505-266		2.2 UF, ± 10%, 2
106060-7	73	1	10204-505-250		1 UF, ± 10%, 20
239840-2	72	4	10503-505-482		.047 UF, ± 10%, 10
289570-4	71	1	10506-505-236		.068 UF, ± 5%, 10
127740-9	70	2	10202-505-328		39 UF, 10%, 10
352250-5	69	2	10503-505-535	CAPACITOR	.47 UF, ± 10%, 5
	68				
	67				
438100-4	66	1	40212-504-414	POTENTIOMETER	2K ØHM, ± 10%, 1/
116940-8	65	6	10611-504-544	RESISTOR	820 K ØHM, ± 5%,
003210-2	64	13	10501-504-218		.24 ØHM, ± 5%, 2W
002510-6	63	3	10222-504-400		1K ØHM, ± 5%, 1/
116920-0	62	1	10212-504-536		560K ØHM, ± 5%,
231040-7	61	1	10212-504-384		510 ØHM, ± 5%,
116880-6	60	1	10212-504-521		270K ØHM, ± 5%,
140910-1	59	1	10212-504-512		180K ØHM, ± 5%,
108900-2	58	4	10212-504-500		100K ØHM, ± 5%,
109210-5	57	1	10212-504-486		56K ØHM, ± 5%,
116820-2	56	2	10212-504-484		51K ØHM, ± 5%,
109160-2	55	2	10212-504-482		47K ØHM, ± 5%,
109100-8	54	2	10212-504-475		33K ØHM, ± 5%,
109060-4	53	1	10212-504-471	RESISTOR	27K ØHM, ± 5%,
405630-5	52	2	60300-504-464	THERMISTOR	20K HIGH TEMP
131150-5	51	2	10212-504-462	RESISTOR	18K ØHM, ± 5%,
079630-0	50	5	10212-504-450		10K ØHM, ± 5%,
131120-8	49	1	10212-504-440		6.8K ØHM, ± 5%,
109180-0	48	7	10212-504-432		4.7K ØHM, ± 5%,
079580-7	47	1	10212-504-416		2.2K ØHM, ± 5%,
079570-8	46	3	10212-504-412		1.8K ØHM, ± 5%,
079560-9	45	1	10212-504-408		1.6K ØHM, ± 5%,
079540-1	44	2	10212-504-400		1K ØHM, ± 5%, 1/
079530-2	43	1	10212-504-390		680 ØHM, ± 5%,
079520-3	42	5	10212-504-382		470 ØHM, ± 5%,
002940-5	41	1	10241-504-358		150 ØHM, ± 5%,
116610-7	40	1	10212-504-371		270 ØHM,
116580-2	39	1	10212-504-340		68 ØHM,
116540-6	38	2	10212-504-325	RESISTOR	33 ØHM,
131140-6	37	1	10212-504-458	RESISTOR	15 K,
109650-5	36	4	10212-504-466	RESISTOR	22K

REF. DES. LAST USED	REF. DES NOT USED
C89	C9,12,21,22, 29,88
CR8	
R90	
Q20	
U67	
(42)	(35)

(3) 8. INSTALL PER C.C.P. SPEC. A0305-002-103.
(2) 7. INSTALL PER C.C.P. SPEC. A0305-002-91.
6. DIODES ARE IN914 OR EQUIVALENT.
5. RESISTOR VALUES ARE IN OHMS ± 5 % AND ARE 1/4 WATT
4. CAPACITOR VALUES ARE IN MICROFARADS ± 10 % AND ARE RATED AT 25 VOLTS
3. INTEGRATED CIRCUITS ARE 74LS00 OR EQUIVALENT
(1) 2. APPLY DASH NO. AND REVISION NO. USING WHITE CHARACTERS PER C.C.P. SPEC A0104-001
1. PERFORMANCE TEST PER C.C.P. SPEC. A0505-
NOTE : UNLESS OTHERWISE SPECIFIED

	U8,64
	U58,59
	U63
	U9,32,53
	U1,20,54,61,62
	U26,27,43
	U57
	U12,14
	U16,18,44,45,55
	U40,41,50
	U4,28,29,30,31,35,42
	U23,24,47,60
	U13,51
	U6,17,19,25,48,49,52,67
	U3,10,11
	U5
	U7
	U38,39,46,65,66
	U56
	Q6,8,12
	Q13,15
	Q5,7,11
	Q14,16
	Q1,3,9,17,19
	Q2,4,10,18,20
	CR1,2,3,4,5,6,7,8
V	C3,4
25V	C10,11,15,16,17,18,24,25,38,39,
—	C40,41,44,46,52-87
0V	C5,89
V	C20,27,28,45,47
00V	C13,14,23,36,37
00V	C2
0V	C19,26,48,49
0V	C30,31
0V	C42,43
V	C6
0V	C32,33,34,35
0V	C1
	C50,51
0V	C7,8
2W	R5
/4W	R70,71,76,77,79,80
	R38,39,40,41,42,43,52,53,54,82,83,84,85
2W	R36,37,51
/4W	R15
/4W	R19
/4W	R57
/4W	R14
/4W	R16,72,73,90
/4W	R20,
/4W	R12,13
/4W	R21,56
/4W	R68,69
/4W	R17
0EFF	R65,67
/4W	R55
/4W	R24,26,44,59,75
/4W	R58
/4W	R32,33,34,35,48,49,74
/4W	R1
/4W	R25,27,46
/4W	R2,7
/4W	R6,18
/4W	R11
/4W	R28,29,47,78,81
2W	R63
/4W	R10
/4W	R56
/4W	R3,4
/4W	R9
/4W	R60,61,62,63

16919 11863 — REVISIONS			
REV	ZONE	DESCRIPTION	DATE & APPROVAL
B		PILOT PRODUCTION RELEASE WAS ENGINEERING ONLY P/N P20872-502-000-B WAS X20872-502-000-A	3 Cullum 1-14-78
C		IN L/M 40212-504-500 100K ØHM WAS 100 ØHM. 40212-504-450 10K ØHM WAS ØHM 40212-504-434 5 K ØHM WAS 5 ØHM 10204-505-325 QTY 4 WAS 5 REWORK ALL A REV-512-BDS PER D.O. 1498	ED 11863
D		IN L/M 13501-206-010 WAS 13501-206-001. I.C. NO. 003490-1 WAS 003480-1. I.C. NO. 131140-6 WAS 110150-0. 10212-504-432 QTY 7 WAS 8. 10212-504-482 QTY 2 WAS 1	3-21-78

452910-8	35	1	60108-504-432	RESISTOR, NETWORK	4.7 K OHM SIP 8	R8
116870-7	34	1	10212-504-516	RESISTOR	220 ØHM ± 5%, 1/4 W	R87
444330-5	33	2	40212-504-500	POTENTIOMETER	100KØHM, ± 10%, 1/2 W	R64,66
444340-4	32	3	40212-504-450	↕	10K ØHM, ± 10%, 1/2 W	R22,23,45
444350-3	31	1	40212-504-434	↕	5K ØHM, ± 10%, 1/2 W	R9
444360-2	30	3	40212-504-400	POTENTIOMETER	1K ØHM, ± 10%, 1/2 W	R30,31,50
374210-3	29	1	50023-404-001	SOCKET, IC, 16 PIN		J2110
341750-8	28	2	50015-404-101	SOCKET, IC, 16 PIN		REF. U58,59
405640-4	27	3	20416-304-001	RELAY, REED		K1, K2, K3
211090-6	26	4	12010-206-008	BUSHING, INSUL.		REF. Q13,14,15,16
030010-3	25	12	74008-206-111	WASHER, INTERNAL TOOTH	#6	
163750-3	24	12	74002-206-111	WASHER, FLAT THIN	#6	
149140-6	23	4	74602-206-071	WASHER, FLAT THIN	#4	
029640-0	22	6	60010-206-249	SCREW, PAN HD.	6-32 x 1/2 LG.	
029620-2	21	6	60010-206-247	SCREW, PAN HD.	6-32 x 3/8 LG.	
151810-9	20	4	60010-206-078	SCREW, PAN HD,	4-40 x 7/8 LG.	
173620-6	19	12	50002-206-012	NUT, HEX SMALL	6-32	
173630-5	18	4	50003-206-008	NUT, HEX SMALL	4-40	
336270-4	17	2	57012-206-009	EJECTOR, PCB		
077000-8	16	2	13505-206-010	JACK, VERTICAL, BLK		TP5,6
030060-8	15	4	74007-206-071	WASHER, SPLIT LOCK	#4	
	14					
	13					
	12					
	11					
	10					
003490-1	9	1	13501-206-003	TEST JACK, ORG		TP3
	8					
003460-3	7	1	13501-206-010	TEST JACK, BLK		TP4
066650-3	6	1	13501-206-002	TEST JACK, RED		TP2
066660-2	5	1	13501-206-001	TEST JACK, BRN		TP1
397230-4	4	12	12536-206-000	SOCKET, COMP. LEAD		REF Q5,6,7,8,11,12
447570-3	3	3	10528-206-000	HEAT SINK		REF Q6,8,12
448300-4	2	4	14403-204-000	SPACER		REF Q13,14,15,16
448290-7	1	1	14400-204-000	HEAT SINK		REF Q13,14,15,16
452750-3	ITEM		P20872-502-000	ASSEMBLY		
I.C. NO.	NO.	REQD	PART OR IDENTIFYING NO.	NOMENCLATURE OR DESCRIPTION	MATERIAL SIZE, DESCRIPTION & SPECIFICATION	ZONE

LIST OF MATERIAL OR PARTS LIST

DIMENSIONS ARE IN INCHES
TOLERANCES ON
DECIMALS .XX ± .03 .XXX ± .010
ANGLES ± 0° 30'
UNLESS OTHERWISE SPECIFIED

DRAWN	J.C. Yoga	11/22/77
CHECKED	H. Goodman	1-25-78
APPD		
APPD		
APPD		

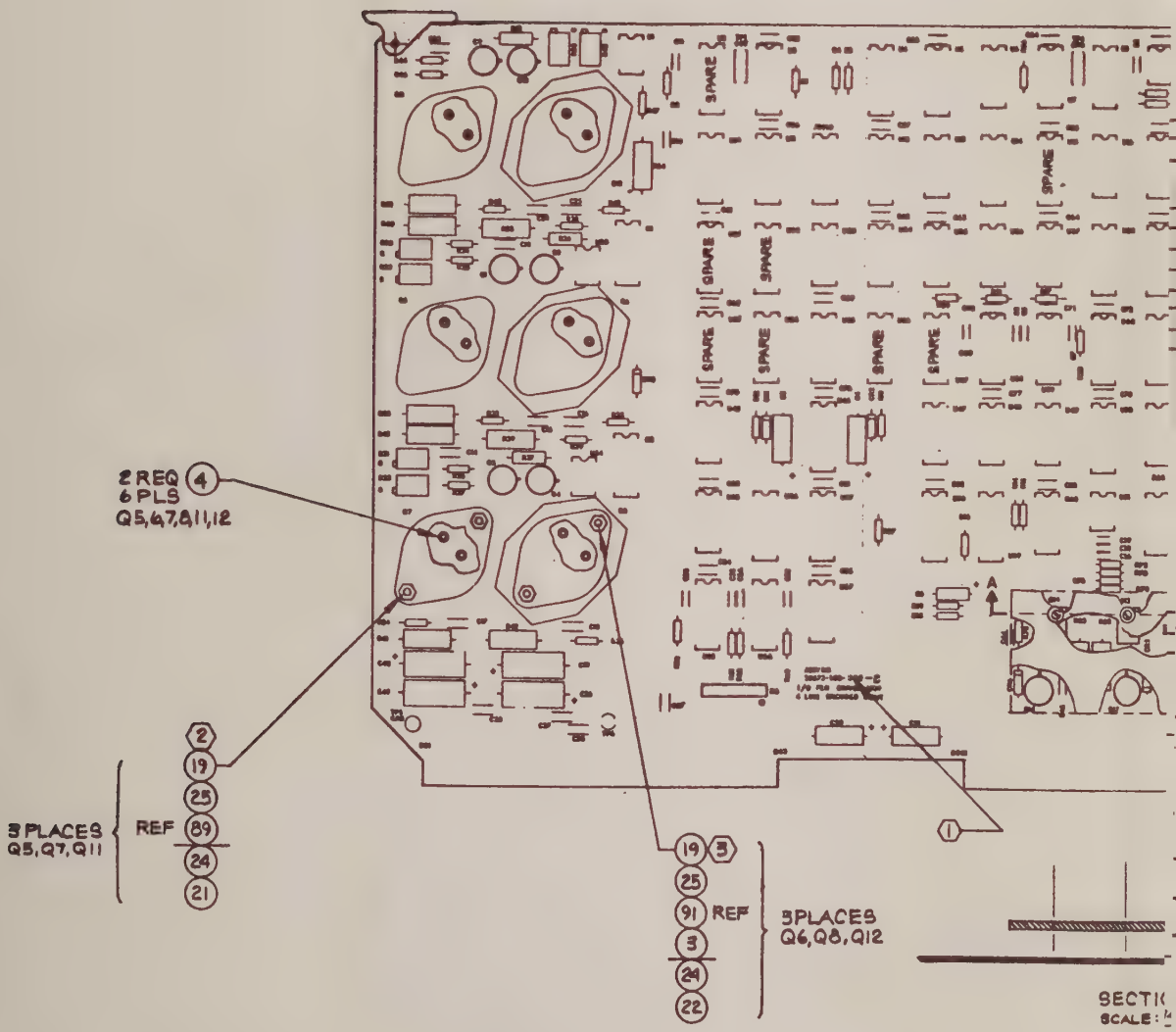
MODEL NO. 1039
NEXT ASSY
FINISH
HEAT TREAT
FIRST USAGE

CALIFORNIA COMPUTER PRODUCTS INC.
1270 NORTH KRAEMER BLVD, ANAHEIM, CALIFORNIA 92806
2411 WEST LA PALMA, ANAHEIM, CALIFORNIA 92801

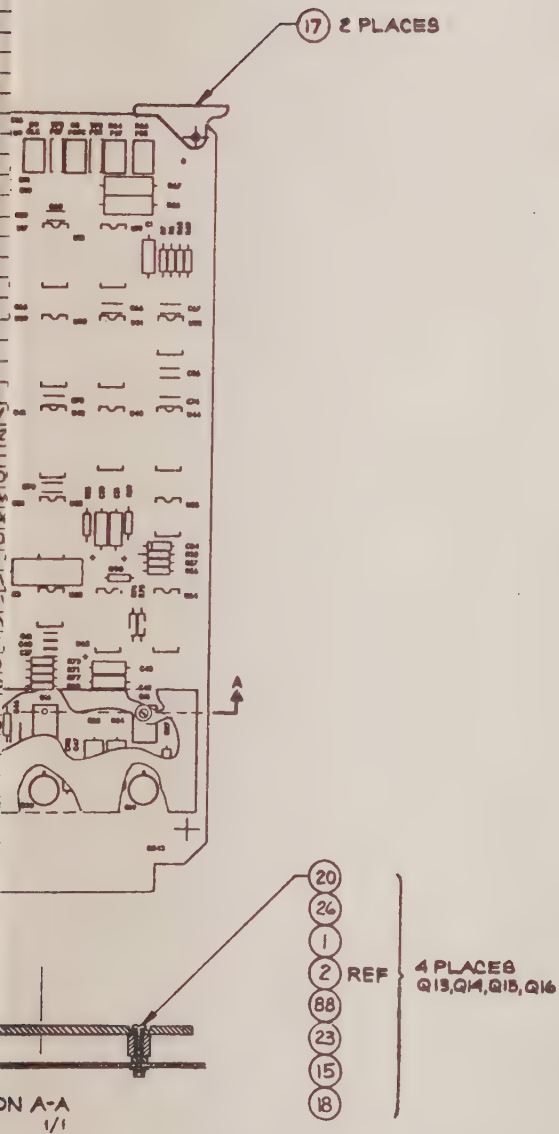
ASSEMBLY- I/O PEN DRIVE 1039 4 LINE ENCODED INPUT

SCALE: NONE
SIZE: D
P20872-502-000
SHEET 1 OF 11

P20872-502-000 D1


2 REQ
6 PLS
Q5,Q7,Q11,12
4
2
19
25
3 PLACES
Q5,Q7,Q11
REF
89
24
21
19
3
25
91
REF
3
24
22
3 PLACES
Q6,Q8,Q12
1
SPARE
A
SECTI
SCALE:

REVISIONS			
REV	ZONE	DESCRIPTION	DATE & APPROVAL
D		16319 11863 —	



ON A-A
1/1

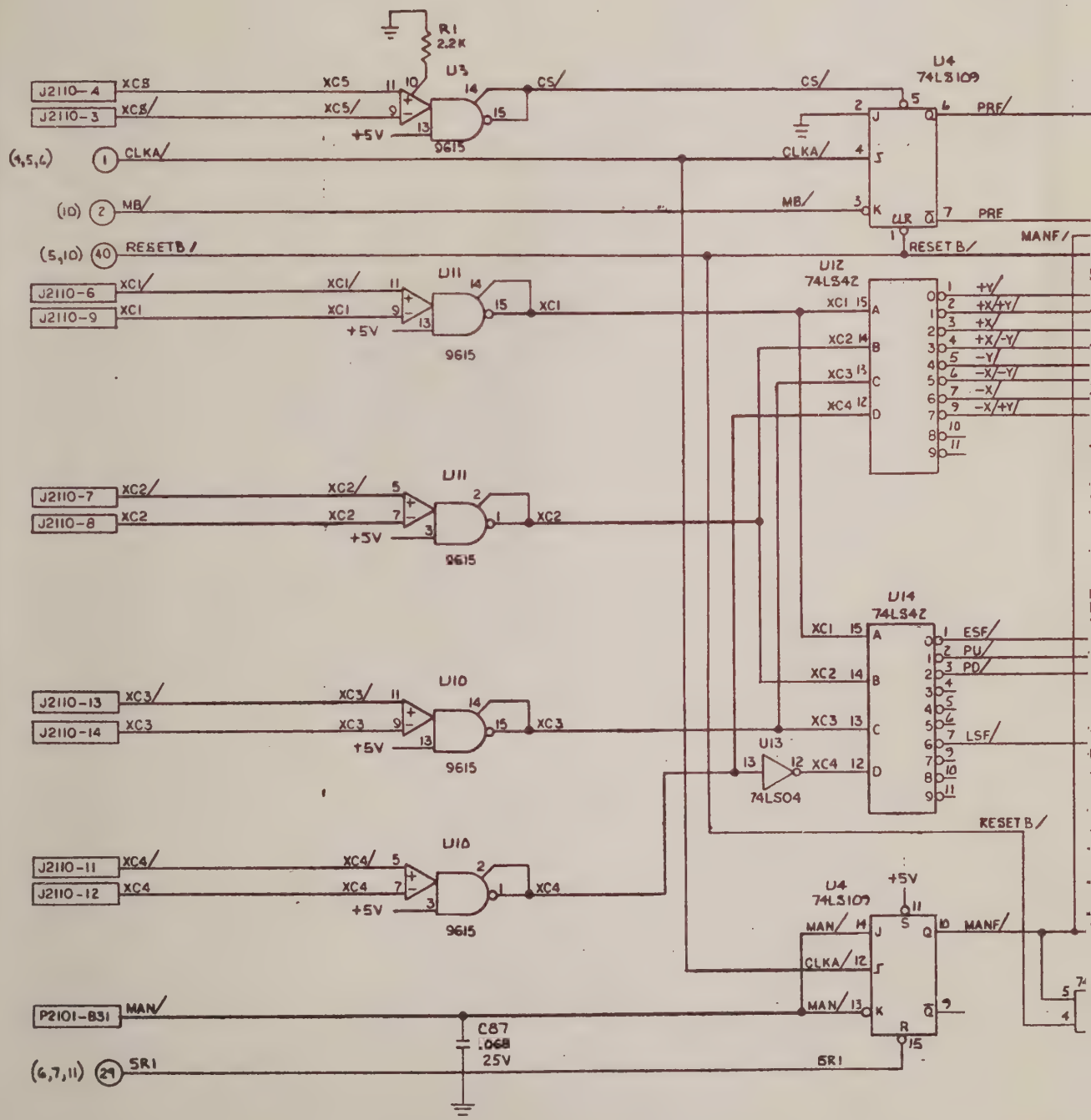
P20872-502-000 D

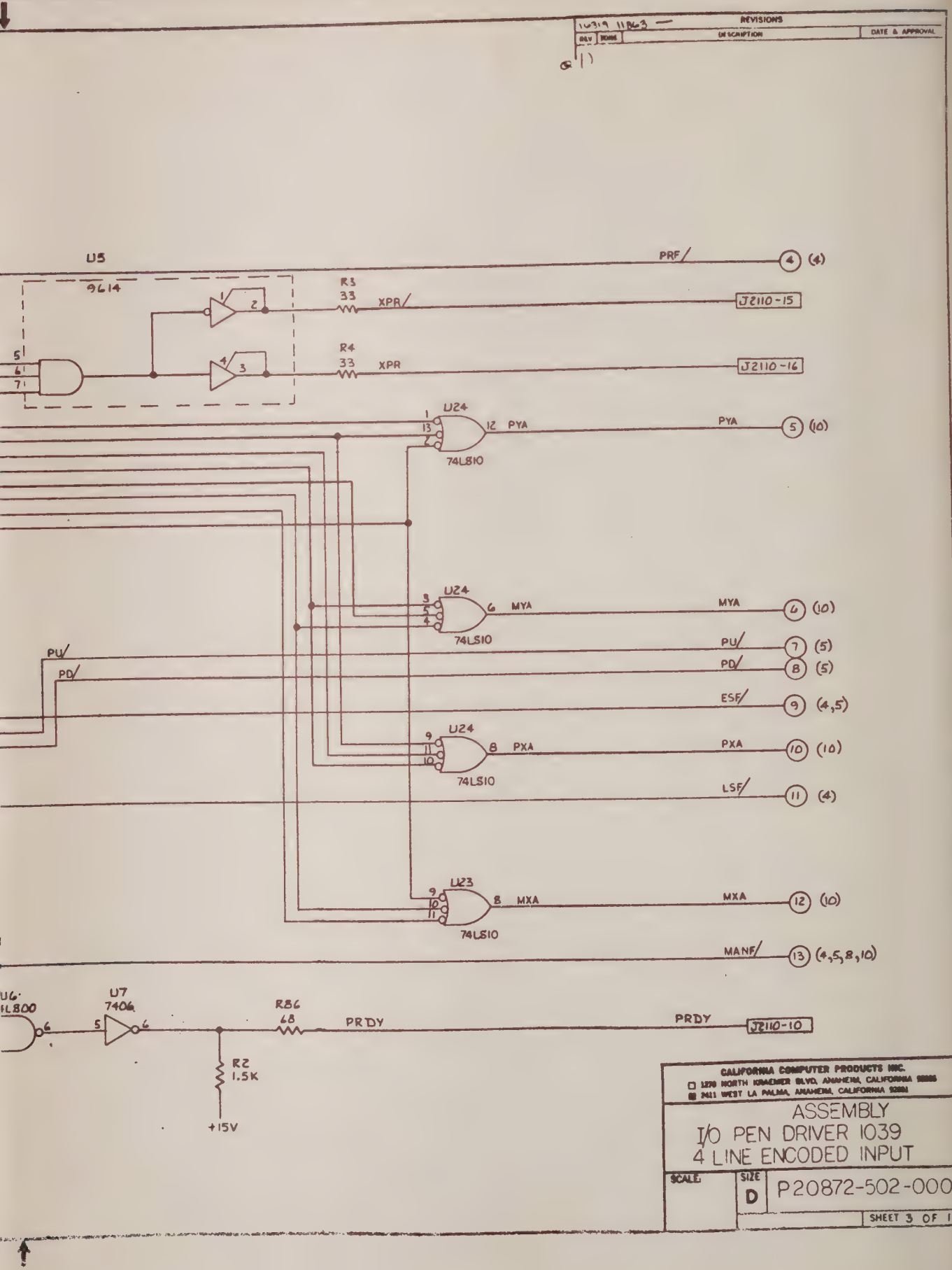
CALIFORNIA COMPUTER PRODUCTS INC.
☐ 1270 NORTH KRAEMER BLVD, ANAHEIM, CALIFORNIA 92805
▣ 2411 WEST LA PALMA, ANAHEIM, CALIFORNIA 92801

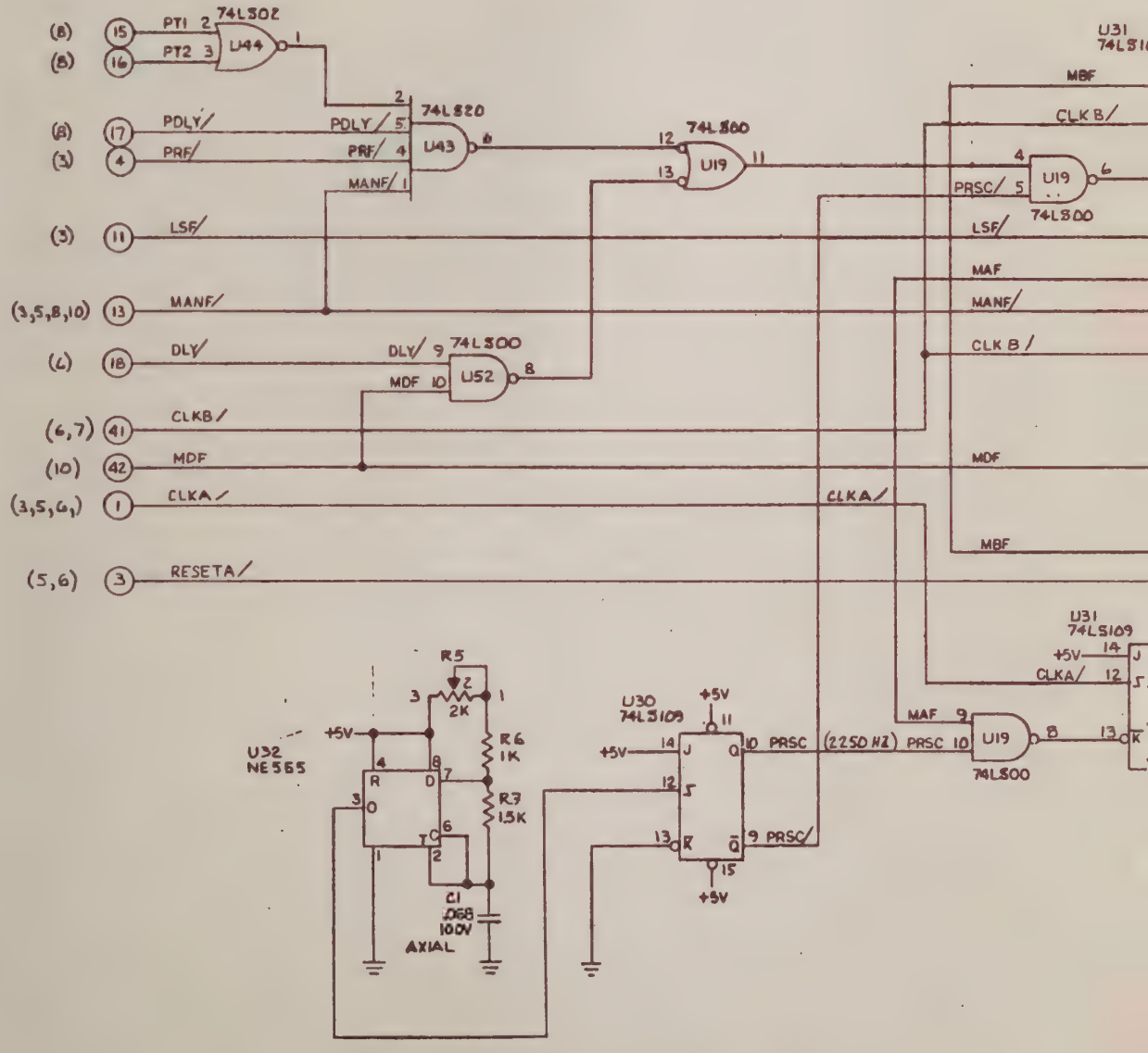
ASSEMBLY-
I/O PEN DRIVE 1039
4 LINE ENCODED INPUT

SCALE:	SIZE	
	D	P20872-502-000

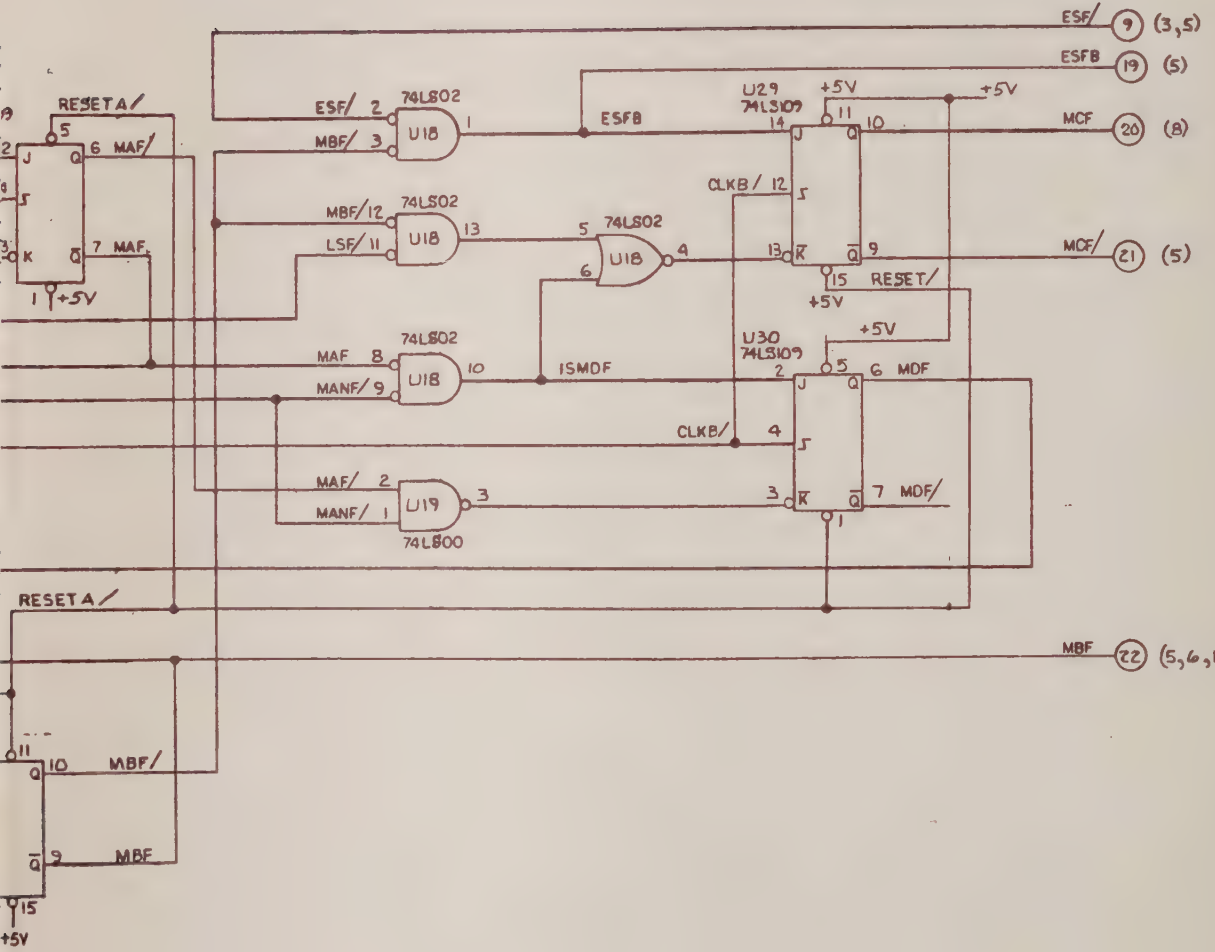
SHEET 2 OF 11


R1
2.2K
U3
9615
J2110-4
J2110-3
XC5
XC5/
+5V
CS/
U4
74LS109
PRE/
CLKA/
MB/
PRE
RESET B/
MANF/
(4,5,6)
(10)
(5,10)
U11
U12
74LS42
J2110-6
J2110-9
XC1/
XC1
XC2
XC3
XC4
+Y
+X/+Y
+X
+X/-Y
-Y
-X/-Y
-X
-X/+Y
J2110-7
J2110-8
XC2/
U14
74LS42
ESF/
PU/
PD/
LSF/
J2110-13
J2110-14
XC3/
U13
74LS04
J2110-11
J2110-12
XC4/
RESET B/
MAN/
P2101-831
C87
.068
25V
(6,7,11)
SR1


REVISIONS
DESCRIPTION
DATE & APPROVAL
U5
9614
R3
33
XPR/
J2110-15
R4
33
XPR
J2110-16
PRF/
(4)
U24
74LS10
PYA
(10)
MYA
(10)
PU/
(5)
PD/
(5)
ESF/
(4,5)
PXA
(10)
LSF/
(4)
U23
MXA
(10)
MANF/
(4,5,8,10)
U7
7406
R86
68
PRDY
J2110-10
R2
1.5K
+15V
CALIFORNIA COMPUTER PRODUCTS INC.
1270 NORTH KRAEMER BLVD, ANAHEIM, CALIFORNIA
2411 WEST LA PALMA, ANAHEIM, CALIFORNIA
ASSEMBLY
I/O PEN DRIVER 1039
4 LINE ENCODED INPUT
SCALE
SIZE
D
P20872-502-000
SHEET 3 OF 11
P20872-502-000 D

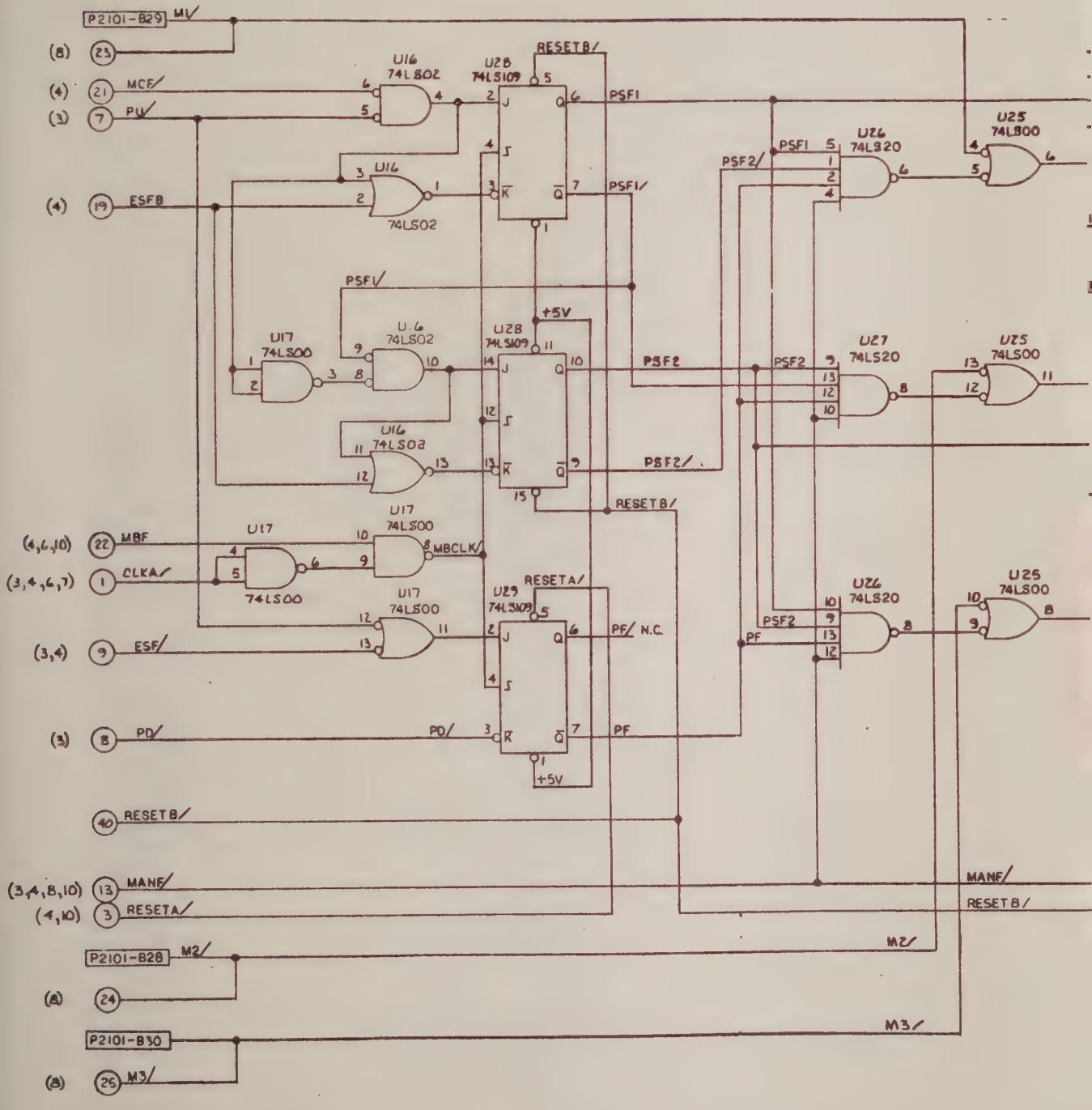

(8) 15 PT1 2
(8) 16 PT2 3
74LS02
U44
1
2
(8) 17 PDLY/
(3) 4 PRF/
PDLY/ 5
PRF/ 4
MANF/ 1
74LS20
U43
6
12
13
74LS00
U19
11
(3) 11 LSF/
(3,5,8,10) 13 MANF/
(4) 18 DLY/
DLY/ 9
MDF 10
74LS00
U52
8
(6,7) 41 CLKB/
(10) 42 MDF
(3,5,6,1) 1 CLKA/
(5,6) 3 RESETA/
U31
74LS1
MBF
CLK B/
4
PRSC/ 5
U19
6
74LS00
LSF/
MAF
MANF/
CLK B/
MDF
CLKA/
MBF
U31
74LS109
+5V
14
CLKA/ 12
J
MAF 9
(2250 HZ)
PRSC 10
U19
8
13
74LS00
R5
2K
3
2
1
+5V
U32
NE555
4
8
R
D
7
3
O
6
T
C
1
2
R6
1K
R7
1.5K
C1
.068
100V
AXIAL
U30
74LS109
+5V
11
14
J
Q
10 PRSC
12
S
13
R
Q
9 PRSC/
15
+5V

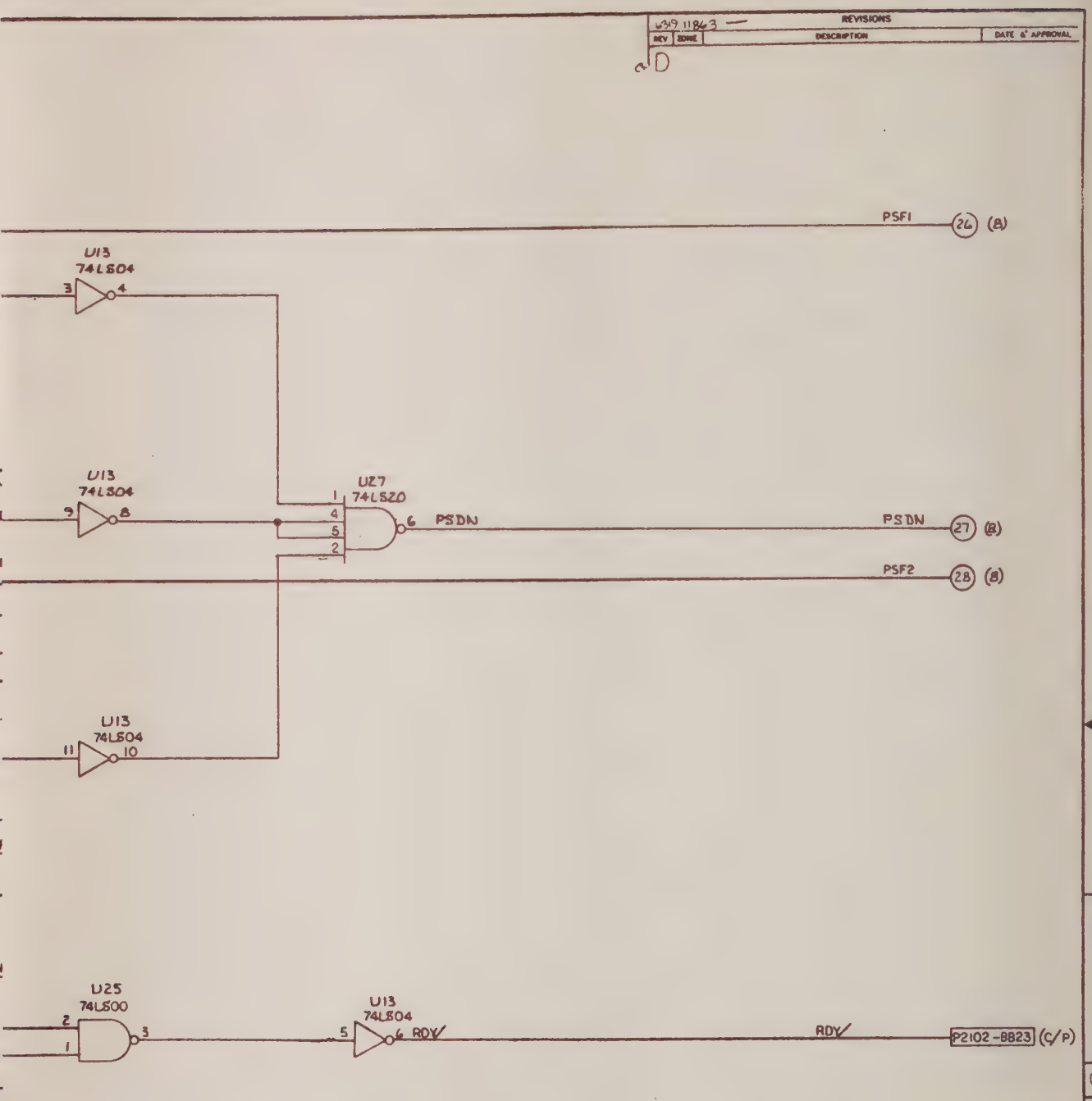
REVISIONS			
REV	ZONE	DESCRIPTION	DATE & APPROVAL



P20872-502-000 D

CALIFORNIA COMPUTER PRODUCTS INC.		
1270 NORTH KRAEMER BLVD, ANAHEIM, CALIFORNIA 92806		
2411 WEST LA PALMA, ANAHEIM, CALIFORNIA 92801		
ASSEMBLY I/O PEN DRIVER 1039 4 LINE ENCODED INPUT		
SCALE:	SIZE D	P20872 502 000
		SHEET 4 OF 11


P2101-829
M1/
(8) 23
(4) 21 MCF/
(3) 7 PU/
(4) 19 ESFB
U16 74L802
U16 74LS02
U28 74LS109
RESETB/
PSF1
PSF1/
U25 74LS00
U26 74LS20
PSF2/
U17 74LS00
U.6 74LS02
+5V
PSF2
PSF2/
U27 74LS20
U25 74LS00
(4,6,10) 22 MBF
(3,4,6,7) 1 CLKA/
MBCLK/
RESETA/
U29 74LS109
PF/ N.C.
PF
(3,4) 9 ESF/
(3) 8 PD/
PD/
(40) RESETB/
(3,4,8,10) 13 MANF/
(4,10) 3 RESETA/
P2101-828
M2/
(A) 24
P2101-830
M3/
(A) 25 M3/



P20872-502-000 D

CALIFORNIA COMPUTER PRODUCTS INC.
☐ 1270 NORTH KRAEMER BLVD, ANAHEIM, CALIFORNIA 92806
■ 2411 WEST LA PALMA, ANAHEIM, CALIFORNIA 92801

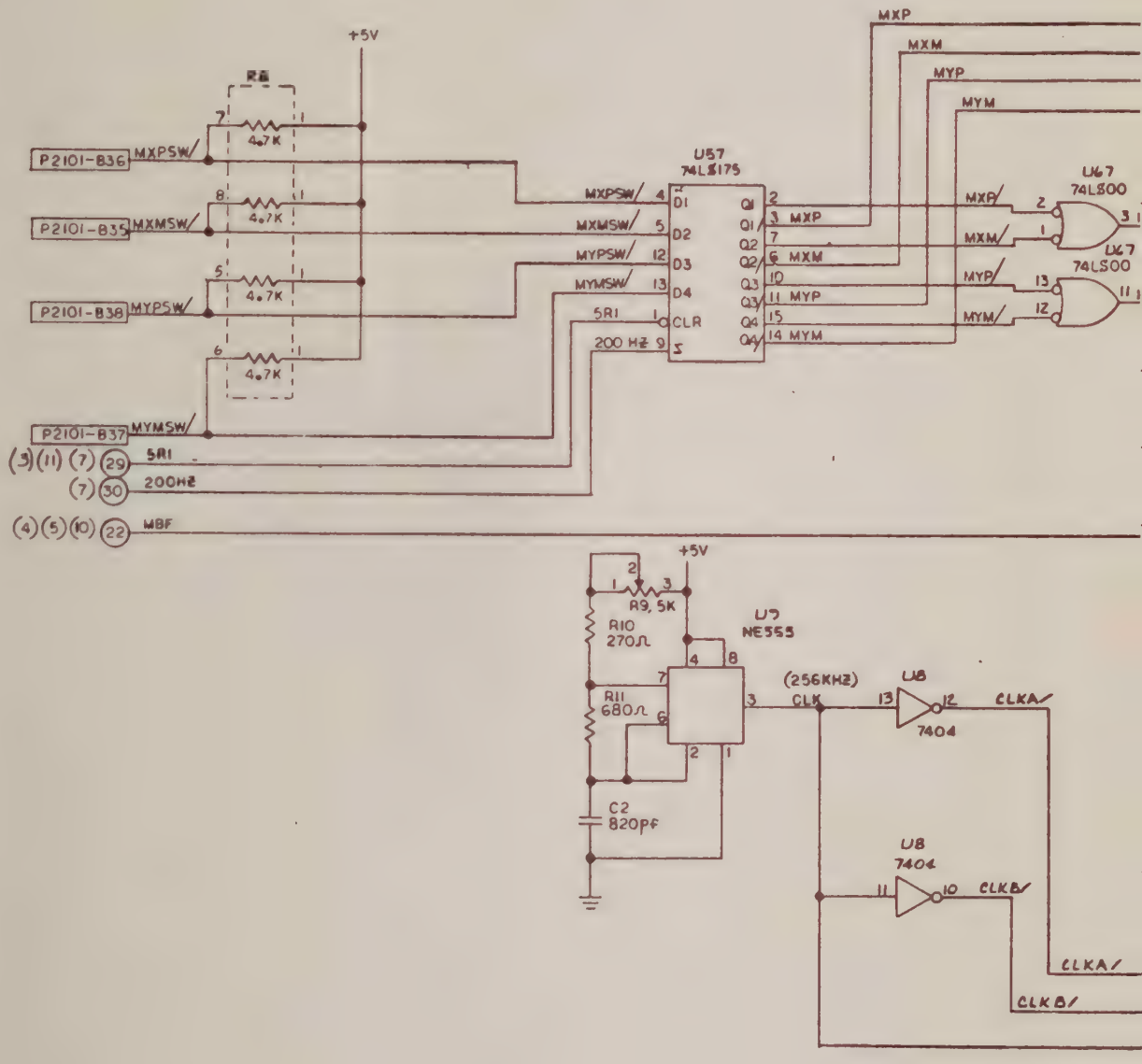
ASSEMBLY
I/O PEN DRIVER 1039
4 LINE ENCODED INPUT

SCALE:

SIZE D

P20872-502-000

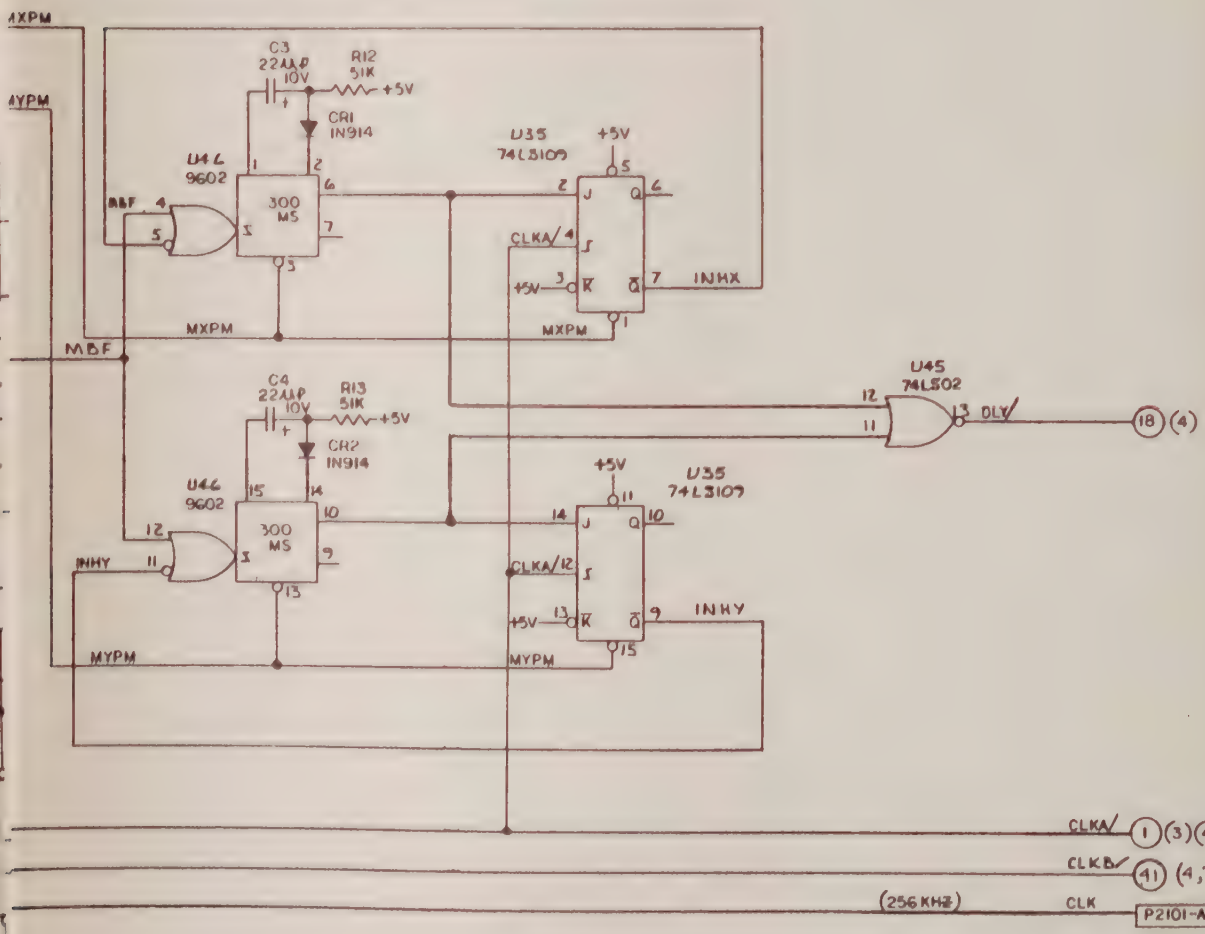
SHEET 5 OF 11


+5V
R8
4.7K
P2101-B36 MXPSW/
P2101-B35 MXMSW/
P2101-B38 MYPSW/
P2101-B37 MYMSW/
(3)(11)(7)(29) SRI
(7)(30) 200HZ
(4)(5)(10)(22) MBF
U57
74LS175
MXPSW/
MXMSW/
MYPSW/
MYMSW/
SRI
200 HZ
D1
D2
D3
D4
CLR
Q1
Q1/
Q2
Q2/
Q3
Q3/
Q4
Q4/
MXP
MXM
MYP
MYM
U67
74LS00
MXP/
MXM/
MYP/
MYM/
U67
74LS00

+5V
R9, 5K
R10
270Ω
R11
680Ω
C2
820pf
U7
NE555
(256KHZ)
CLK
U8
7404
CLKA
U8
7404
CLKB
CLKA/
CLKB/

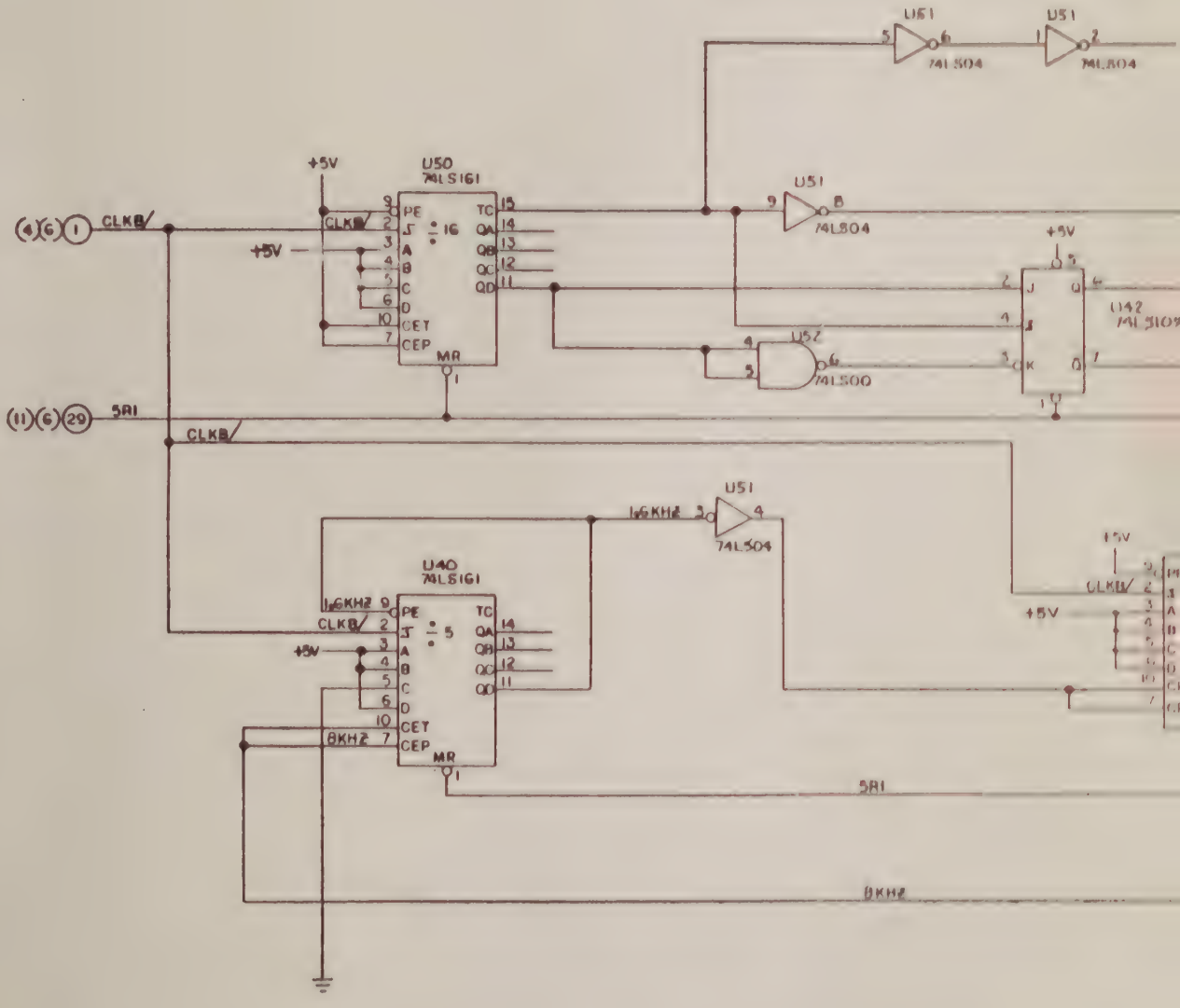
REVISIONS			
REV	ZONE	DESCRIPTION	DATE & APPROVAL
D			

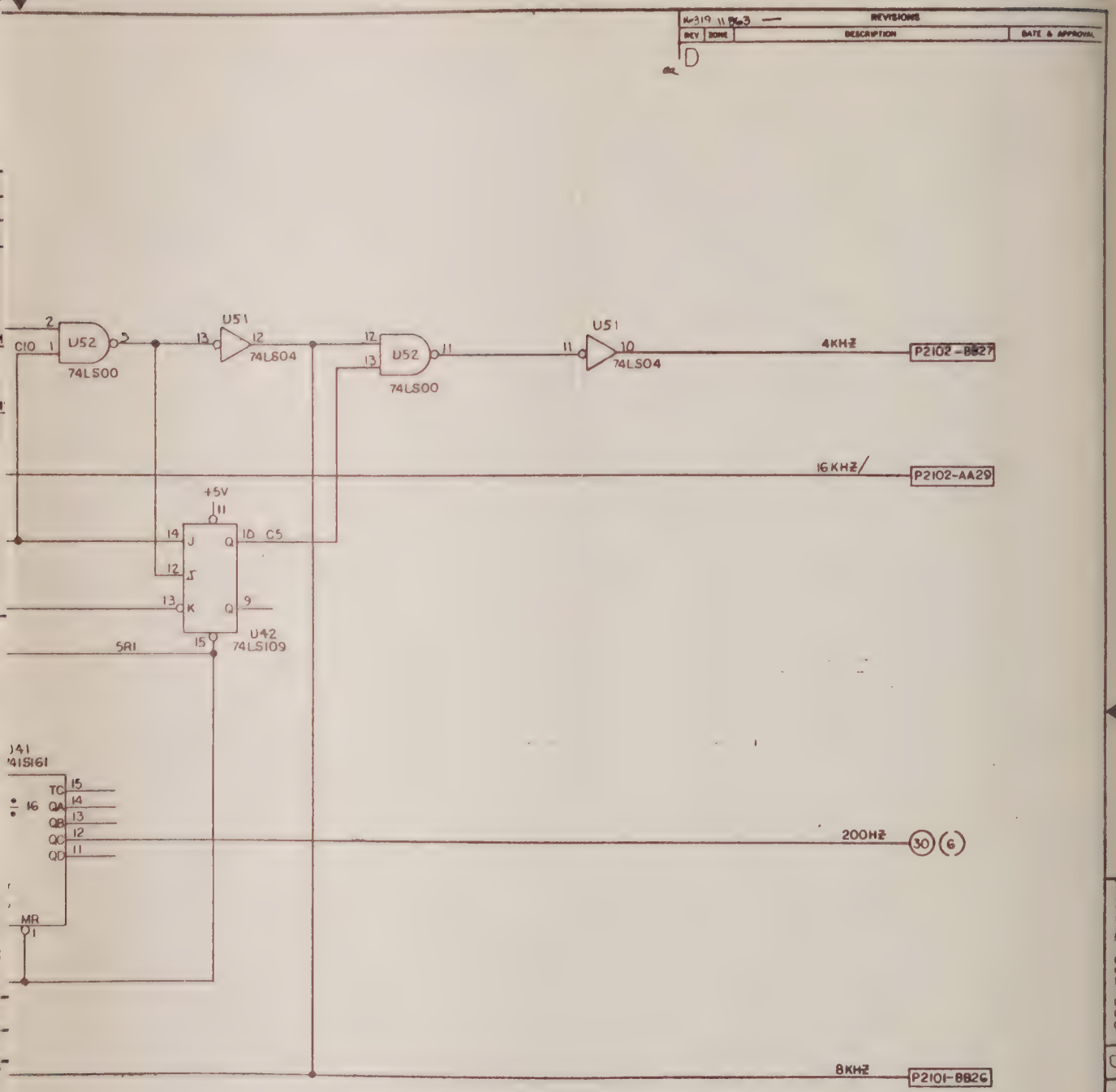
MXP (31) (10)
MXM (32) (10)
MYP (33) (10)
MYM (34) (10)



CALIFORNIA COMPUTER PRODUCTS INC.	
☐ 1270 NORTH KRAEMER BLVD, ANAHEIM, CALIFORNIA 92806	
☒ 2411 WEST LA PALMA, ANAHEIM, CALIFORNIA 92804	
ASSEMBLY- I/O PEN DRIVE 1039 4 LINE ENCODED INPUT	
SCALE:	SIZE D
P20872-502-000	
SHEET 6 OF 11	

P20872-502-000 D


U51
74LS04
U51
74LS04
U50
74LS161
+5V
CLKB/
+5V
PE
CET
CEP
MR
TC
QA
QB
QC
QD
÷ 16
U51
74LS04
+5V
U42
74LS109
U52
74LS00
(4)(6)(1)
CLKB/
(11)(6)(29)
5RI
CLKB/
U51
74LS04
1.6KHZ
U40
74LS161
1.6KHZ
CLKB/
+5V
8KHZ
÷ 5
+5V
CLKB/
+5V
5RI
8KHZ



P20872-502-000 D

CALIFORNIA COMPUTER PRODUCTS INC.
1270 NORTH KRAEMER BLVD, ANAHEIM, CALIFORNIA
2411 WEST LA PALMA, ANAHEIM, CALIFORNIA

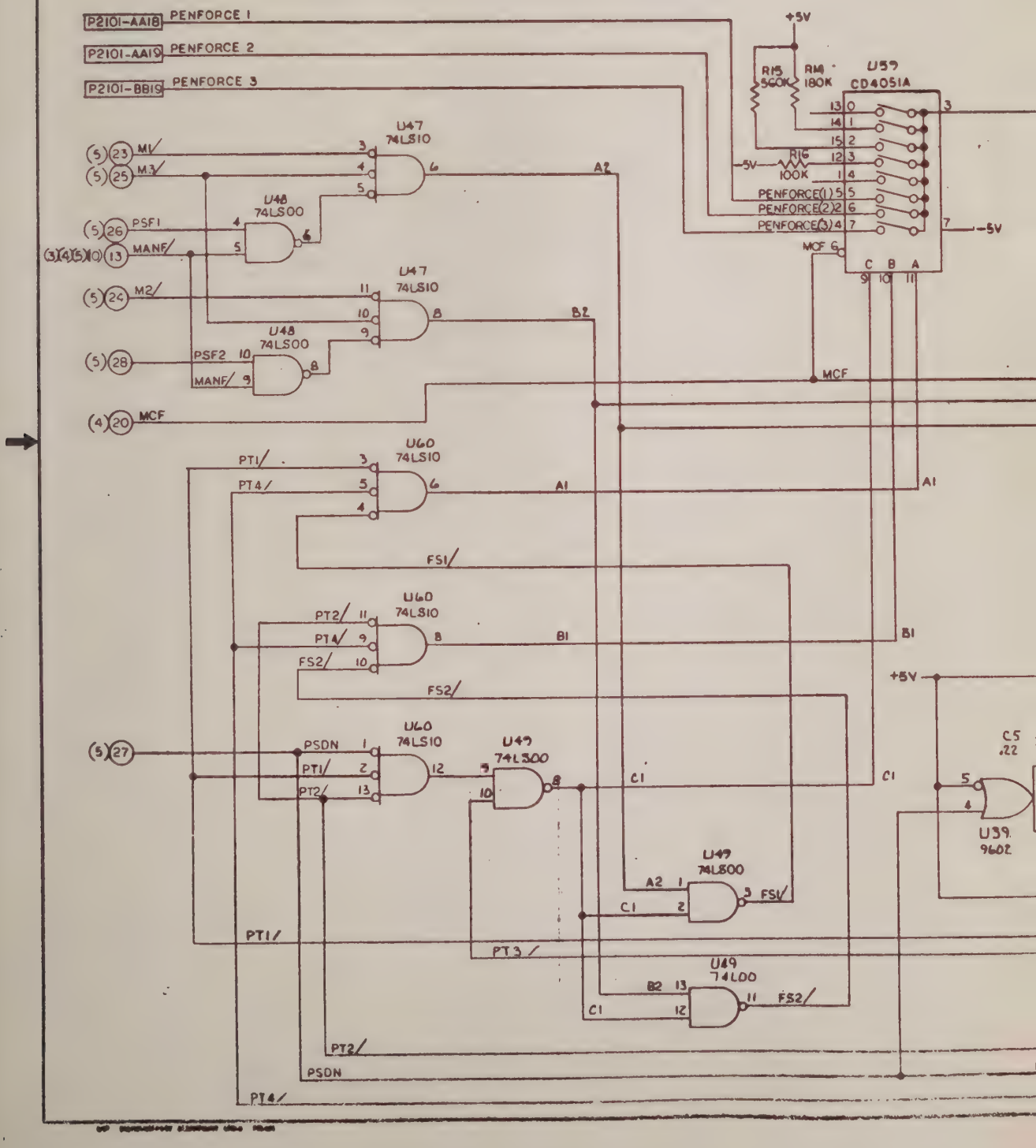
I/O PEN DRIVE 1039
4 LINE ENCODED INPUT

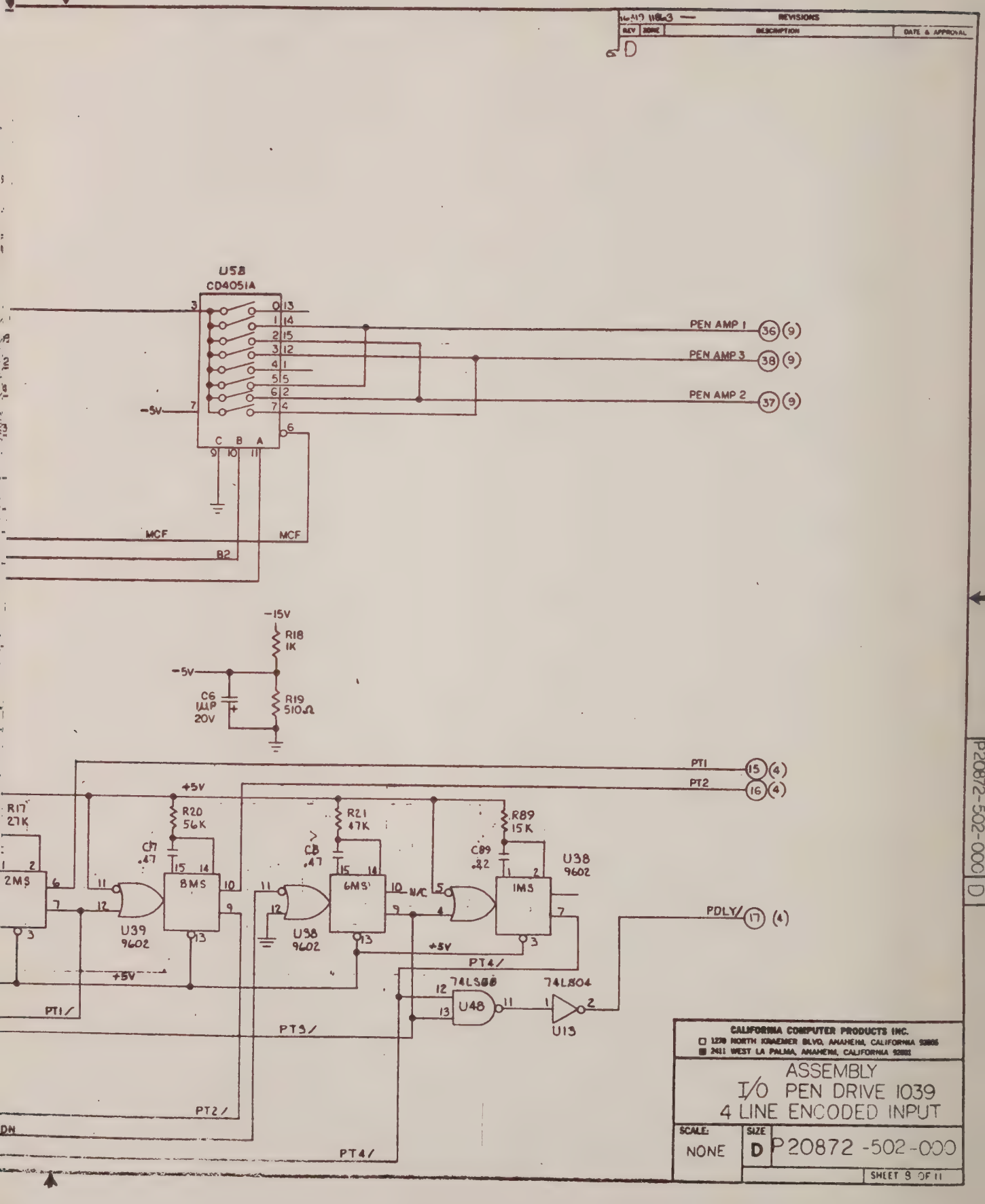
SCALE:

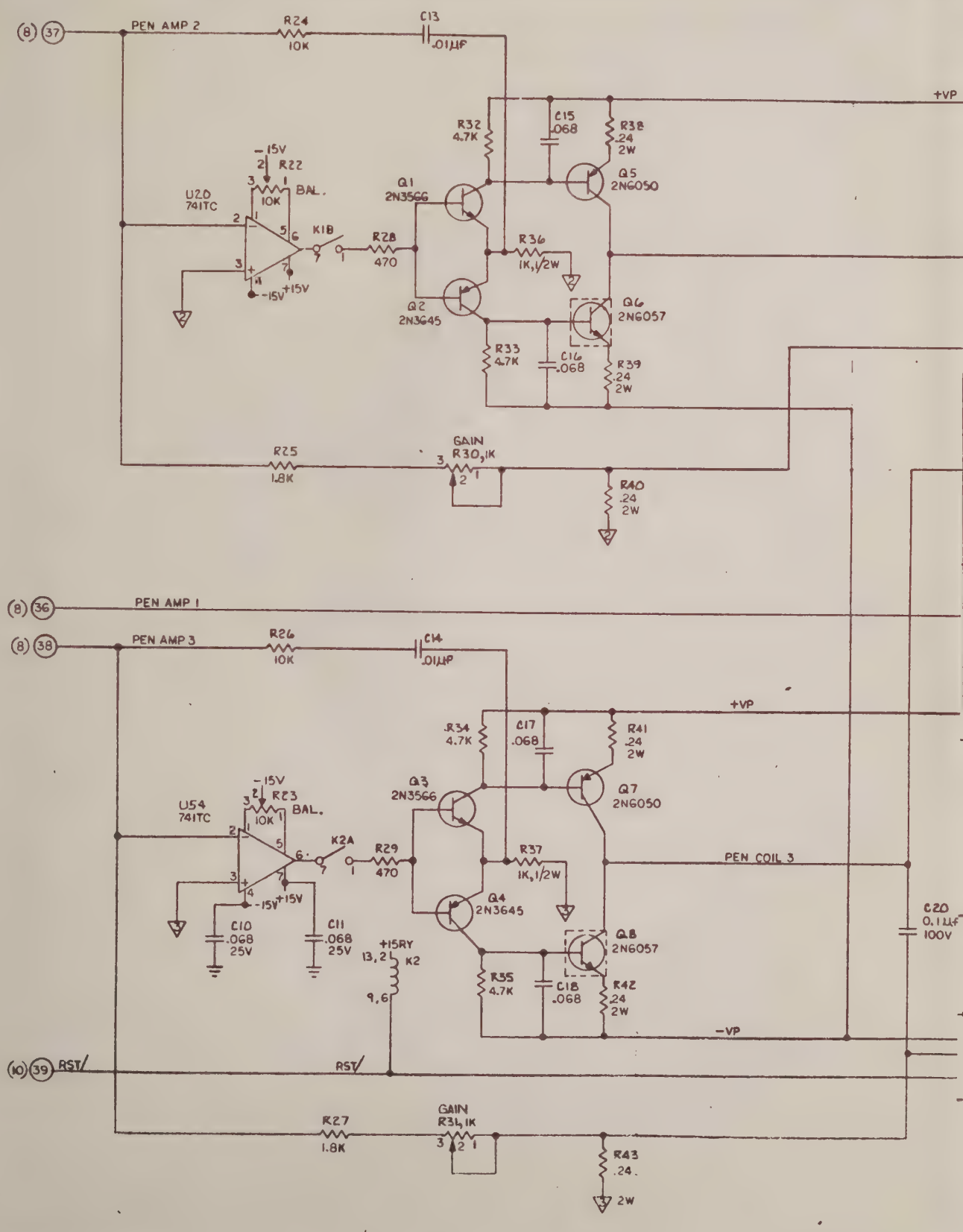
SIZE D

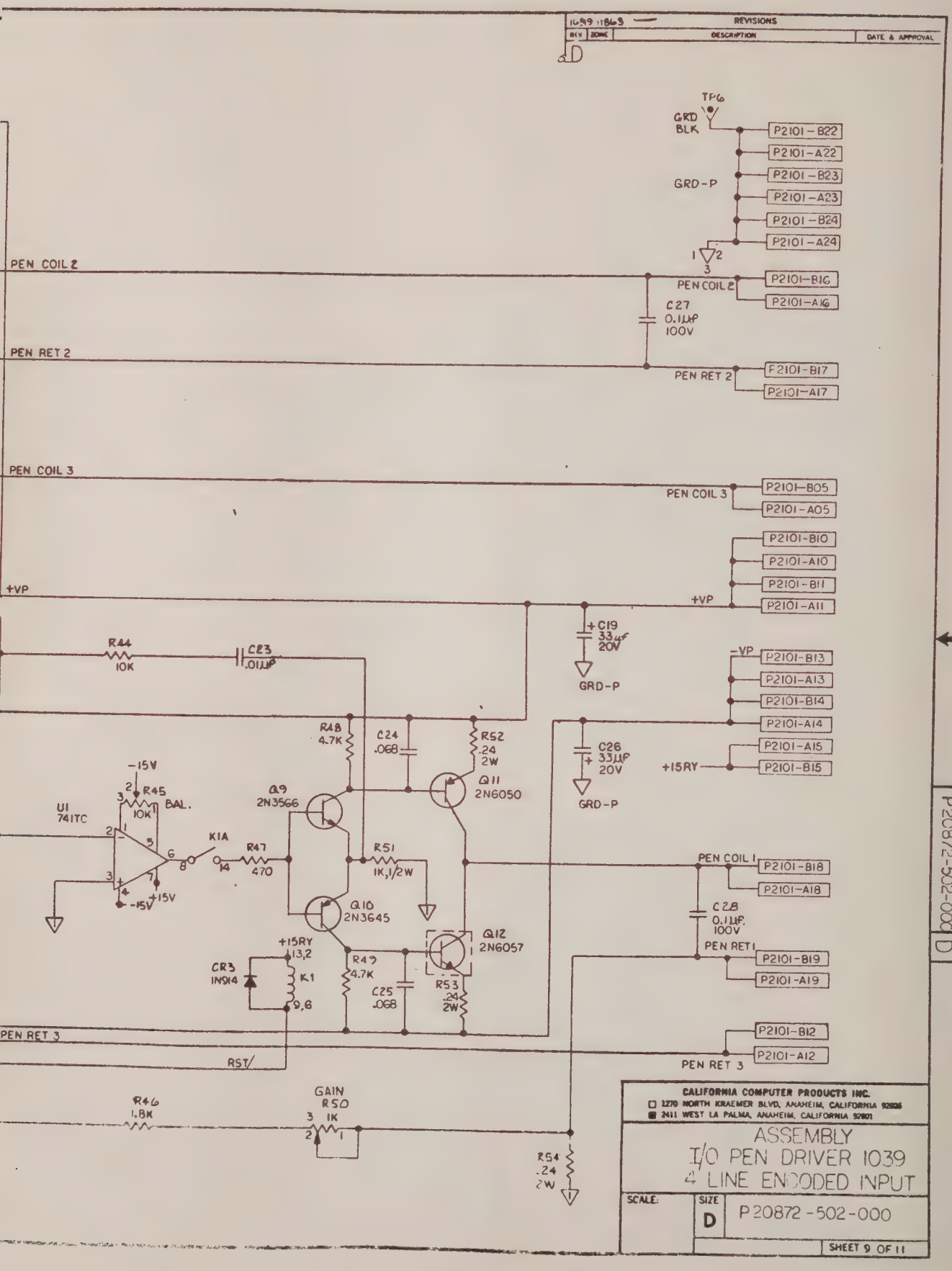
P20872-502-000

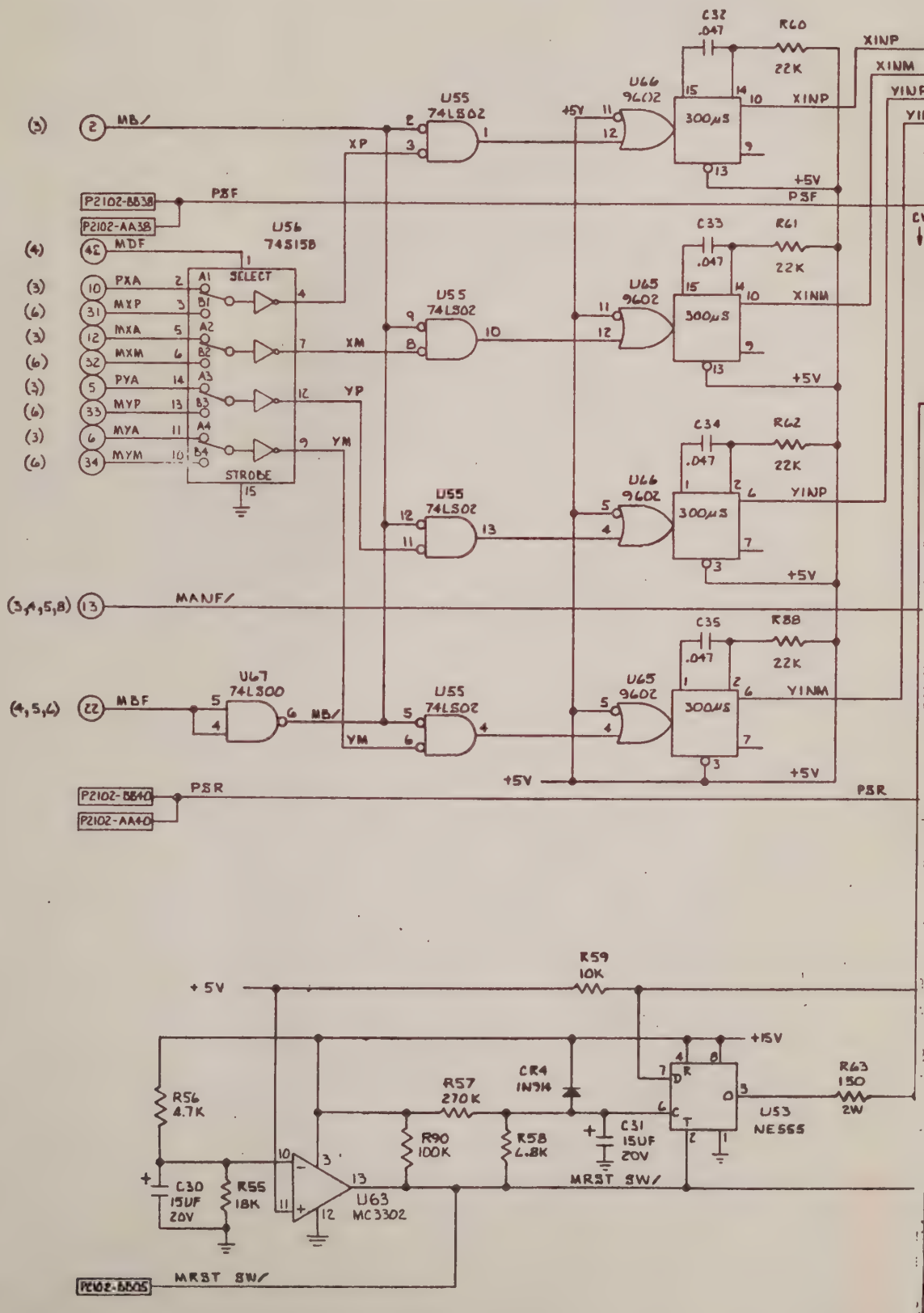
SHEET 7 OF 11

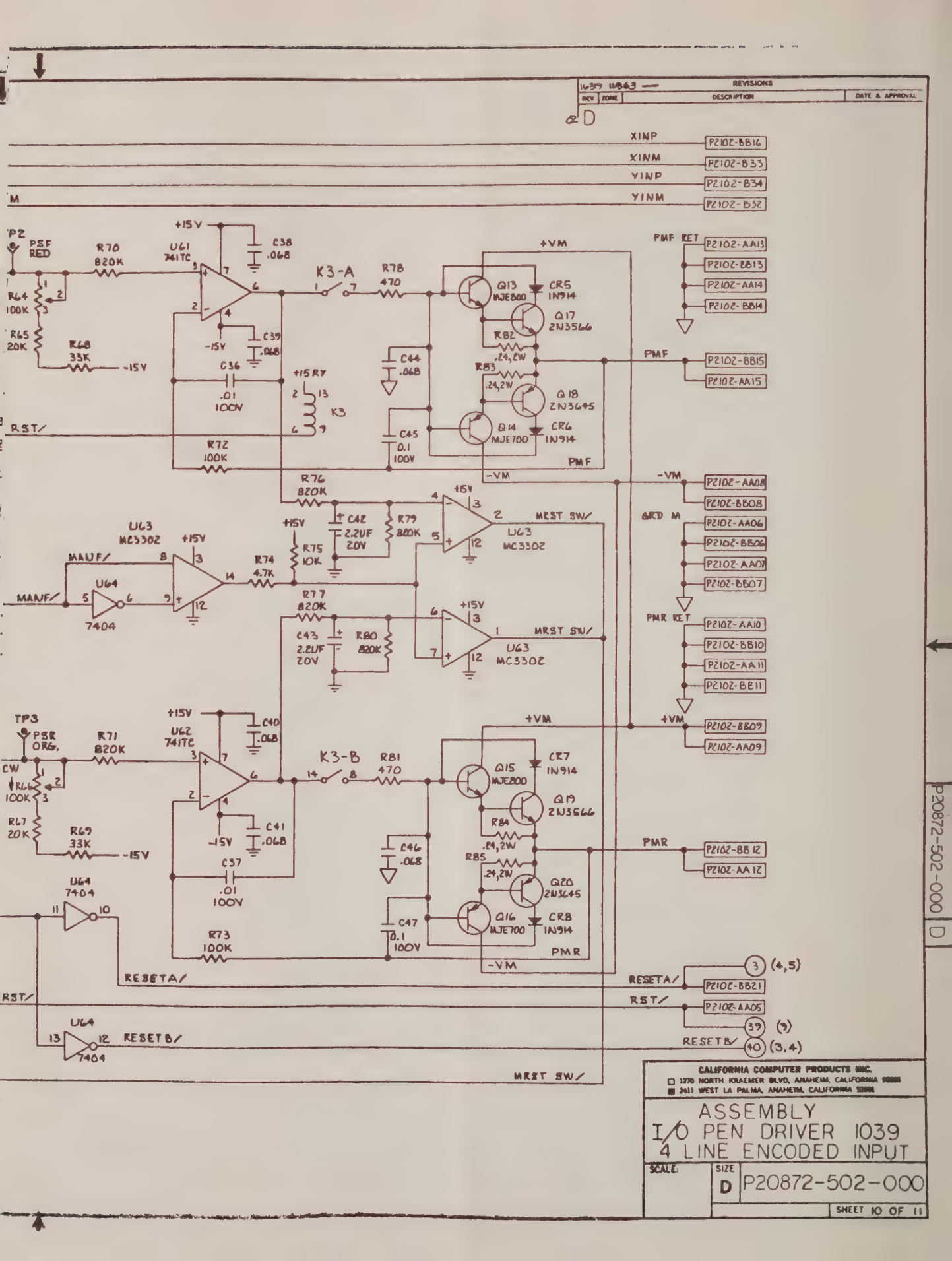

P2101-AA18 PENFORCE 1
P2101-AA19 PENFORCE 2
P2101-BB19 PENFORCE 3
+5V
RI5 560K
RI4 180K
U39 CD4051A
RI6 100K
-5V
PENFORCE(1)
PENFORCE(2)
PENFORCE(3)
MCF
U47 74LS10
U48 74LS00
M1/
M3/
M2/
PSF1
PSF2
MANF/
MCF
A2
B2
A1
B1
U60 74LS10
PT1/
PT4/
PT2/
FS1/
FS2/
PSDN
U49 74LS00
C1
U49 74LD0
C5 .22
U39 9602

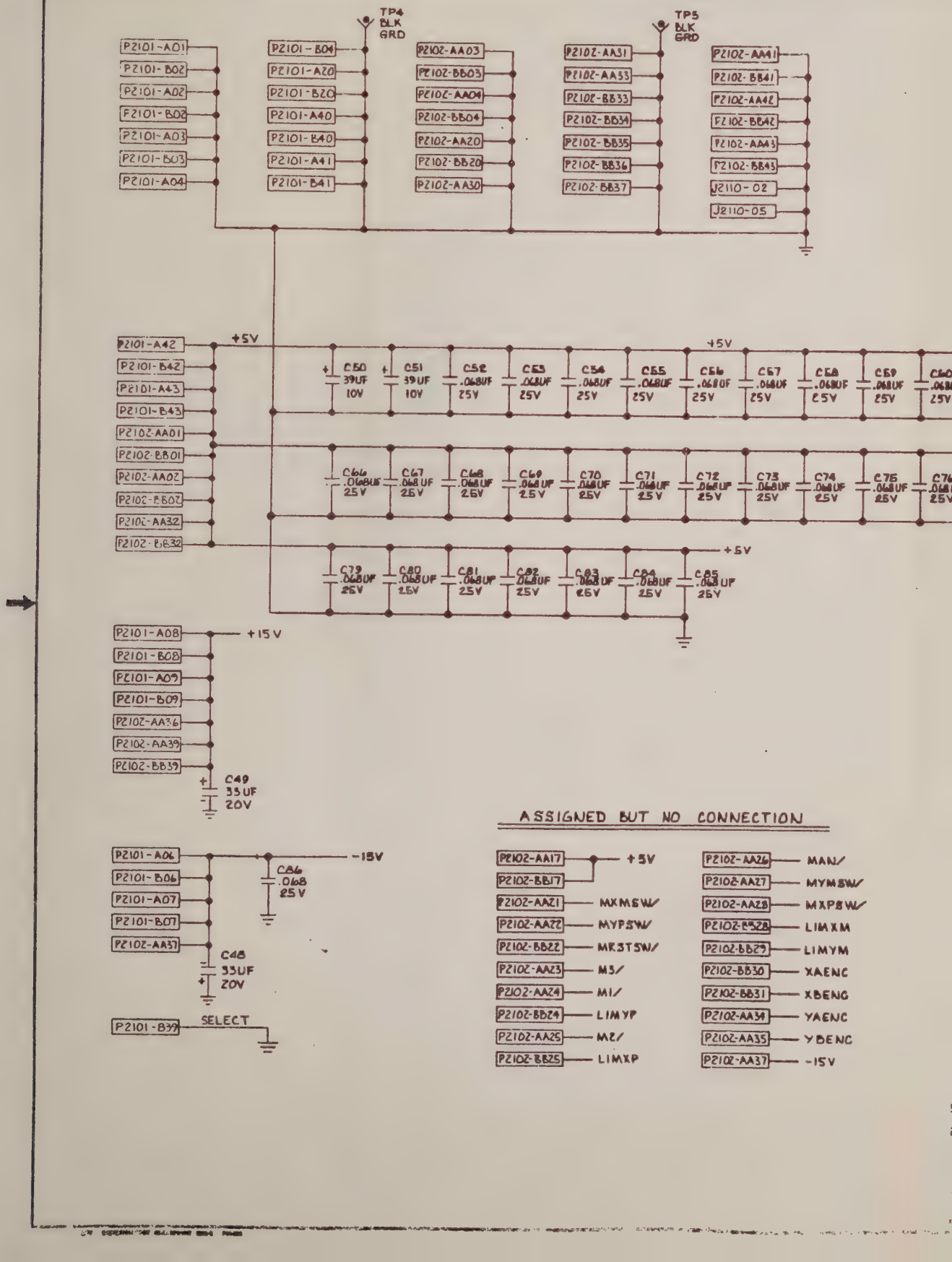

REVISIONS
REV
ZONE
DESCRIPTION
DATE & APPROVAL
D
U58
CD4051A
PEN AMP 1
PEN AMP 3
PEN AMP 2
-5V
MCF
MCF
B2
-15V
R18
1K
-5V
C6
1MP
20V
R19
510Ω
PT1
PT2
+5V
R17
27K
R20
56K
R21
47K
R89
15K
C7
.47
C8
.47
C89
.82
U38
9602
U39
9602
U38
9602
PDLY/
+5V
PT4/
+5V
PT1/
PT3/
PT2/
PT4/
74LS08
74L804
U48
U13
CALIFORNIA COMPUTER PRODUCTS INC.
1270 NORTH KRAEMER BLVD, ANAHEIM, CALIFORNIA
2411 WEST LA PALMA, ANAHEIM, CALIFORNIA
ASSEMBLY
I/O PEN DRIVE 1039
4 LINE ENCODED INPUT
SCALE:
NONE
SIZE
D
P20872-502-000
SHEET 9 OF 11
P20872-502-000
D


(8) (37)
PEN AMP 2
R24
10K
C13
.01μF
+VP
R32
4.7K
C15
.068
R38
.24
2W
-15V
R22
BAL.
10K
U20
741TC
Q1
2N3566
Q5
2N6050
K1B
R28
470
R36
1K, 1/2W
Q2
2N3645
Q6
2N6057
R33
4.7K
C16
.068
R39
.24
2W
+15V
-15V
R25
1.8K
GAIN
R30, 1K
R40
.24
2W
(8) (36)
PEN AMP 1
(8) (38)
PEN AMP 3
R26
10K
C14
.01μF
+VP
R34
4.7K
C17
.068
R41
.24
2W
U54
741TC
R23
BAL.
10K
Q3
2N3566
Q7
2N6050
K2A
R29
470
R37
1K, 1/2W
PEN COIL 3
Q4
2N3645
C20
0.1μF
100V
C10
.068
25V
C11
.068
25V
+15RY
13, 2
K2
9, 6
Q8
2N6057
R35
4.7K
C18
.068
R42
.24
2W
-VP
(10) (39)
RST/
RST/
R27
1.8K
GAIN
R31, 1K
R43
.24
2W


1099-1863
REVISIONS
REV | ZONE | DESCRIPTION | DATE & APPROVAL
D
TP6
GRD BLK
P2101-B22
P2101-A22
P2101-B23
P2101-A23
P2101-B24
P2101-A24
GRD-P
PEN COIL 2
PEN COIL 2
P2101-B16
P2101-A16
C27 0.1μF 100V
PEN RET 2
PEN RET 2
P2101-B17
P2101-A17
PEN COIL 3
PEN COIL 3
P2101-B05
P2101-A05
P2101-B10
P2101-A10
P2101-B11
P2101-A11
+VP
+VP
+C19 33μF 20V
GRD-P
-VP
P2101-B13
P2101-A13
P2101-B14
P2101-A14
P2101-A15
P2101-B15
+15RY
C26 33μF 20V
GRD-P
R44 10K
C23 .01μF
R48 4.7K
C24 .068
R52 .24 2W
Q9 2N3566
Q11 2N6050
-15V
R45 10K BAL.
U1 741TC
K1A
R47 470
R51 1K, 1/2W
Q10 2N3645
Q12 2N6057
+15RY
13,2
CR3 IN914
K1
9,6
R49 4.7K
C25 .068
R53 .24 2W
PEN COIL 1
P2101-B18
P2101-A18
C28 0.1μF 100V
PEN RET 1
P2101-B19
P2101-A19
PEN RET 3
P2101-B12
P2101-A12
RST/
R46 1.8K
GAIN R50 1K
R54 .24 2W
P20872-502-000 D
CALIFORNIA COMPUTER PRODUCTS INC.
1270 NORTH KRAEMER BLVD, ANAHEIM, CALIFORNIA 92806
2411 WEST LA PALMA, ANAHEIM, CALIFORNIA 92801
ASSEMBLY
I/O PEN DRIVER 1039
4 LINE ENCODED INPUT
SCALE:
SIZE D
P20872-502-000
SHEET 9 OF 11


MB/
XP
PSF
P2102-BB3B
P2102-AA3B
MDF
U56
74S153
SELECT
PXA
MXP
MXA
MXM
PYA
MYP
MYA
MYM
STROBE
XM
YP
YM
U55
74LS02
MANF/
MBF
U67
74L300
MB/
P2102-BB4O
P2102-AA4O
PSR
U66
9602
U65
C32
.047
R60
22K
XINP
C33
R61
XINM
C34
R62
YINP
C35
R88
YINM
300µS
+5V
R59
10K
+15V
R56
4.7K
R57
270K
CR4
IN914
R90
100K
R58
6.8K
C31
15UF
20V
MRST SW/
U53
NE555
R63
150
2W
C30
15UF
20V
R55
18K
U63
MC3302
P2102-BB05

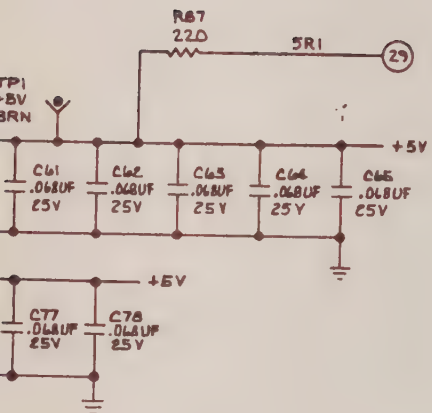

REVISIONS
REV | ZONE | DESCRIPTION | DATE & APPROVAL
16319 11863
D
XINP
XINM
YINP
YINM
M
P2102-BB16
P2102-B33
P2102-B34
P2102-B32
P2
PSF RED
R70 820K
U61 741TC
+15V
C38 .068
K3-A
R78 470
+VM
Q13 MJE800
CR5 IN914
Q17 2N3566
R82 .24,2W
R83 .24,2W
Q18 2N3645
Q14 MJE700
CR6 IN914
C44 .068
C45 0.1 100V
PMF RET
PMF
P2102-AA13
P2102-BB13
P2102-AA14
P2102-BB14
P2102-BB15
P2102-AA15
R64 100K
R65 20K
R68 33K
-15V
C39 .068
C36 .01 100V
+15V RY
K3
RST/
R72 100K
PMF
-VM
R76 820K
C42 2.2UF 20V
R79 820K
U63 MC3302
MRST SW/
R75 10K
R74 4.7K
MAUF/
U64 7404
MANF/
R77 820K
C43 2.2UF 20V
R80 820K
-VM
GRD M
PMR RET
P2102-AA08
P2102-BB08
P2102-AA06
P2102-BB06
P2102-AA07
P2102-BB07
P2102-AA10
P2102-BB10
P2102-AA11
P2102-BB11
TP3
PSR ORG.
R71 820K
U62 741TC
C40 .068
K3-B
R81 470
CW
R66 100K
R67 20K
R69 33K
C41 .068
C37 .01 100V
R84 .24,2W
R85 .24,2W
Q15 MJE800
CR7 IN914
Q19 2N3566
Q20 2N3645
Q16 MJE700
CR8 IN914
C46 .068
C47 0.1 100V
PMR
P2102-BB12
P2102-AA12
R73 100K
RESETA/
RST/
RESETB/
(3) (4,5)
(39) (5)
(40) (3,4)
P2102-BB21
P2102-AA05
MRST SW/
CALIFORNIA COMPUTER PRODUCTS INC.
1270 NORTH KRAEMER BLVD, ANAHEIM, CALIFORNIA
2411 WEST LA PALMA, ANAHEIM, CALIFORNIA
ASSEMBLY
I/O PEN DRIVER 1039
4 LINE ENCODED INPUT
SCALE:
SIZE D
P20872-502-000
SHEET 10 OF 11
P20872-502-000 D



ASSIGNED BUT NO CONNECTION

P2102-AA17, P2102-BB17	+5V	P2102-AA26	MAN/
P2102-AA21	MXMSW/	P2102-AA27	MYMSW/
P2102-AA22	MYPSW/	P2102-AA28	MXPSW/
P2102-BB22	MRSTSW/	P2102-BB28	LIMXM
P2102-AA23	M3/	P2102-BB29	LIMYM
P2102-AA24	M1/	P2102-BB30	XAENC
P2102-BB24	LIMYP	P2102-BB31	XBENC
P2102-AA25	M2/	P2102-AA34	YAENC
P2102-BB25	LIMXP	P2102-AA35	YBENC
		P2102-AA37	-15V

1039 11963	REVISIONS		
REV	ZONE	DESCRIPTION	DATE & APPROVAL
D			



REF DES	+5V	GRD	
U1	—	—	
U2	16	8	SPARE
U3	16	8	
U4	16	8	
U5	16	8	
U6	14	7	
U7	14	7	
U8	14	7	
U9	8	—	
U10	16	8	
U11	16	8	
U12	16	8	
U13	14	7	
U14	16	8	
U15	16	8	SPARE
U16	14	7	
U17	14	7	
U18	14	7	
U19	14	7	
U20	—	—	
U21	16	8	SPARE
U22	16	8	SPARE
U23	14	7	
U24	14	7	
U25	14	7	
U26	14	7	
U27	14	7	
U28	16	8	
U29	16	8	
U30	16	8	
U31	16	8	
U32	8	—	
U33	16	8	SPARE
U34	16	8	SPARE
U35	16	8	

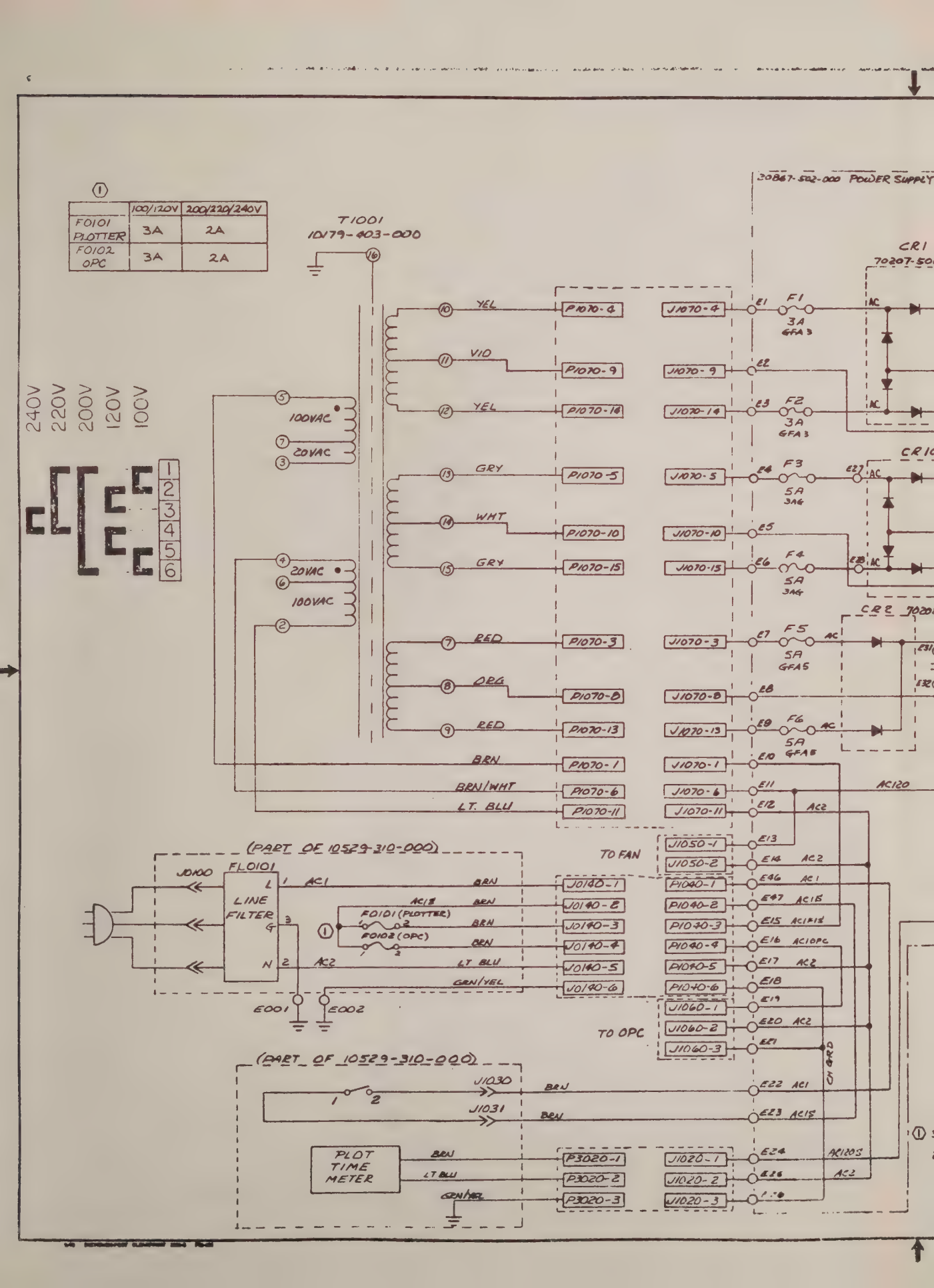
REF DES	+5V	GRD	
U36	16	8	SPARE
U37	16	8	SPARE
U38	16	8	
U39	16	8	
U40	16	8	
U41	16	8	
U42	16	8	
U43	14	7	
U44	14	7	
U45	14	7	
U46	16	8	
U47	14	7	
U48	14	7	
U49	14	7	
U50	16	8	
U51	14	7	
U52	14	7	
U53	—	—	
U54	—	—	
U55	14	7	
U56	16	8	
U57	16	8	
U58	16	8	
U59	16	8	
U60	14	7	
U61	—	—	
U62	—	—	
U63	—	—	
U64	14	7	
U65	16	8	
U66	16	8	
U67	14	7	

P20872-502-000 D

CALIFORNIA COMPUTER PRODUCTS INC.
1270 NORTH KRAEMER BLVD, ANAHEIM, CALIFORNIA 92806
2411 WEST LA PALMA, ANAHEIM, CALIFORNIA 92801

ASSEMBLY —
I/O PEN DRIVE 1039
4 LINE ENCODED INPUT

SCALE:	SIZE	
NONE	D	P20872-502-000
		SHEET 11 OF 11


①
100/120V 200/220/240V
F0101 PLOTTER 3A 2A
F0102 OPC 3A 2A
T1001
10179-403-000
20867-502-000 POWER SUPPLY
CR1
70207-50
CR2
240V
220V
200V
120V
100V
1 2 3 4 5 6
100VAC
20VAC
20VAC
100VAC
YEL
VIO
YEL
GRY
WHT
GRY
RED
ORG
RED
BRN
BRN/WHT
LT. BLU
P1070-4
P1070-9
P1070-14
P1070-5
P1070-10
P1070-15
P1070-3
P1070-8
P1070-13
P1070-1
P1070-6
P1070-11
J1070-4
J1070-9
J1070-14
J1070-5
J1070-10
J1070-15
J1070-3
J1070-8
J1070-13
J1070-1
J1070-6
J1070-11
F1 3A GFA3
F2 3A GFA3
F3 5A 3AG
F4 5A 3AG
F5 5A GFA5
F6 5A GFA5
AC
AC120
AC2
(PART OF 10529-310-000)
FL0101
LINE FILTER
J0100
L
G
N
AC1
AC2
F0101 (PLOTTER)
F0102 (OPC)
E001
E002
BRN
LT BLU
GRN/YEL
J0140-1
J0140-2
J0140-3
J0140-4
J0140-5
J0140-6
TO FAN
TO OPC
J1050-1
J1050-2
J1060-1
J1060-2
J1060-3
P1040-1
P1040-2
P1040-3
P1040-4
P1040-5
P1040-6
AC1
AC1B
AC1PLT
AC1OPC
CH GRD
(PART OF 10529-310-000)
J1030
J1031
PLOT TIME METER
P3020-1
P3020-2
P3020-3
J1020-1
J1020-2
J1020-3
AC120S

REVISIONS			
REV	ZONE	DESCRIPTION	DATE & APPROVAL
0		20329-503-000-0 WAS 120329-503-000-A PRODUCTION RELEASE WAS ENGINEERING ONLY	9-22-77

1037, 1038, 1039

CR3 IN4001

30405-508-000 U2 +15V REG

30411-508-000 U3 -15V REG

30440-508-000 U4 +5V REG

C1 1100μF 50V
C2 2.2μF
C3 500μF 50V
C4 2.2μF
C7 22μF
C8 22μF
C9 15KμF 15V
C10 32KμF 25V
C11 32KμF 25V
C12 2.2
C13 39μF 10V
C14 470μF 1/2W
C15 .01 500V
C16 .068, 25V
C17 .068

R1 3.3K 1/2W
R2 3.3K 1/2W
R3 3.3K 1/2W
R4 3.3K 1/2W
R5 470Ω 2W
R6 470Ω 2W
R7 1K 1/2W
R8 470Ω 1/2W
R9 22
R10 4.7K 1/4W
R11 4.7K 1/4W
R12 4.7M 1/4W
R13 4.7K 1/4W
R14 100 1/2W
R15 1.5K, 1W

CR4 IN751A
CR5 IN4001
CR6 IN4001
CR7 IN4001
SCR1 S03154

U1 7406
U1 7406
U1 7406

K1 21506-306-002

TP1 YEL
TP2 YEL
TP3 BLK
TP4 YEL
TP5 YEL
TP6 BLK
TP7 YEL
TP8 BLK

E48 -19UR → J1010-12
E37 +15V @ 0.5A → J1010-1
E39 -15V @ 0.1A → J1010-3
E39 15RTN → J1010-2
E40 +14V @ 1.5A AVE 5A PK → J1010-4
E41 -14V @ 1.5A AVE 5A PK → J1010-6
E42 14RTN → J1010-5
E43 +5V @ 2.5A → J1010-7
E44 SRTN → J1010-8
E45 RTM/ → J1010-10

P1080-1
P1080-2
P1080-3
P1080-4

(PART OF 10529-310-000)
J0180-1 RED
J0180-2 BLK
3.2 ma
RTM 1
ELAPSED TIME INDICATOR

SEE TABLE FOR FUSE VALUES.

CAPACITOR VALUES ARE IN MICROFARADS ±10% AND ARE RATED AT 35 VOLTS.

RESISTOR VALUES ARE IN OHMS ± 5% AND 1/4 WATT.

NOTES: UNLESS OTHERWISE SPECIFIED

I.C. NO.	REQD	PART OR IDENTIFYING NO.	NOMENCLATURE OR DESCRIPTION	MATERIAL SIZE, DESCRIPTION & SPECIFICATION	ZONE
447760-0		20329-503-000	ASSEMBLY		

LIST OF MATERIAL OR PARTS LIST

DIMENSIONS ARE IN INCHES
TOLERANCES ON
DECIMALS XX ± .03, XXX ± .010
ANGLES ± 0° 30'
UNLESS OTHERWISE SPECIFIED

DRAWN Sauter 7-12-77
CHECK 7-30-77
APPD 8-30-77
APPD
APPD

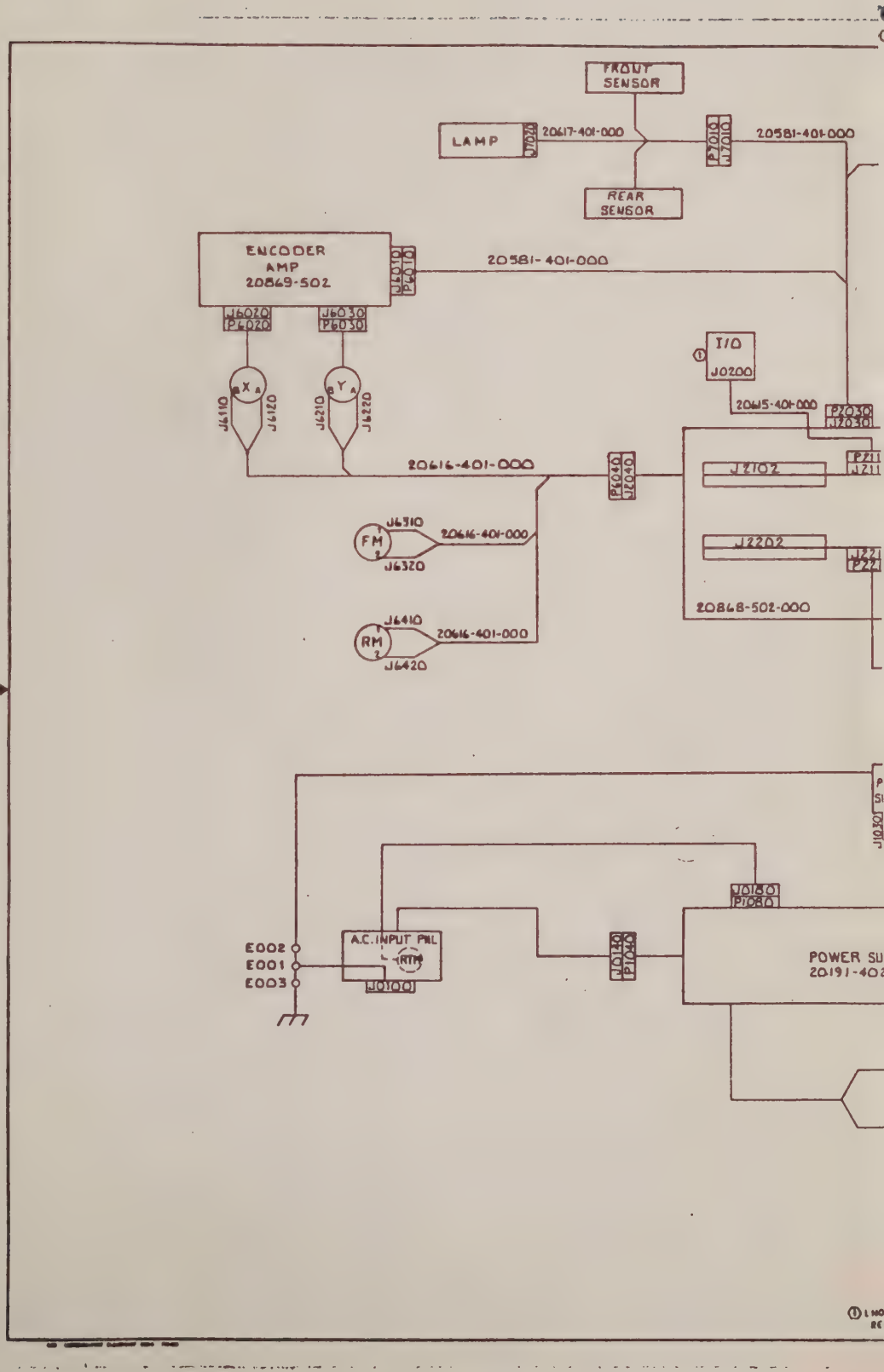
MODEL NO.
NEXT ASSY
FIRST USAGE
FINISH
HEAT TREAT

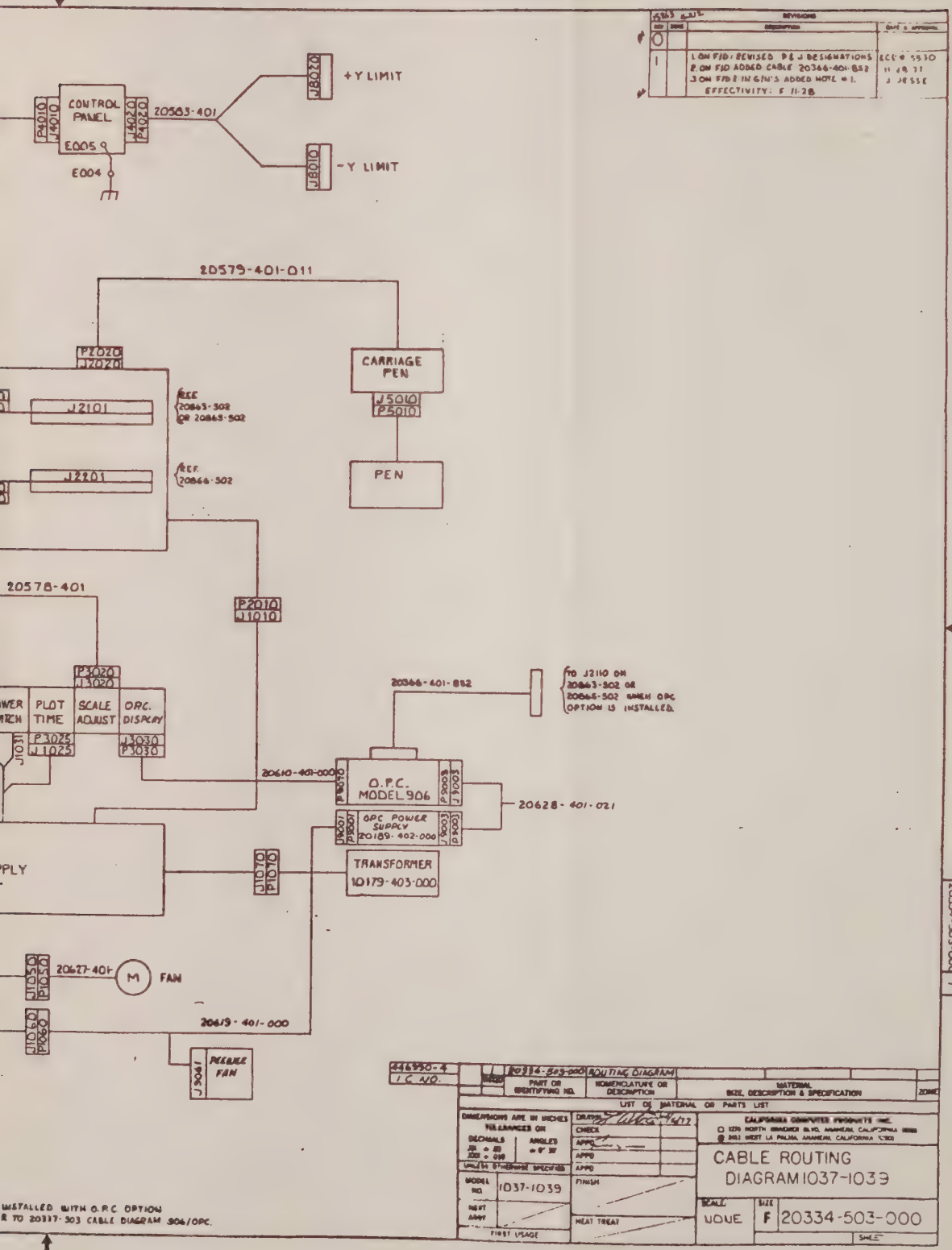
CALIFORNIA COMPUTER PRODUCTS INC.
1270 NORTH KRAEMER BLVD, ANAHEIM, CALIFORNIA 92806
2411 WEST LA PALMA, ANAHEIM, CALIFORNIA 92801

SCHEMATIC - POWER SUPPLY 1037 - 1038 - 1039

SCALE: NONE
SIZE D
20329-503-000
SHEET 1 OF 1

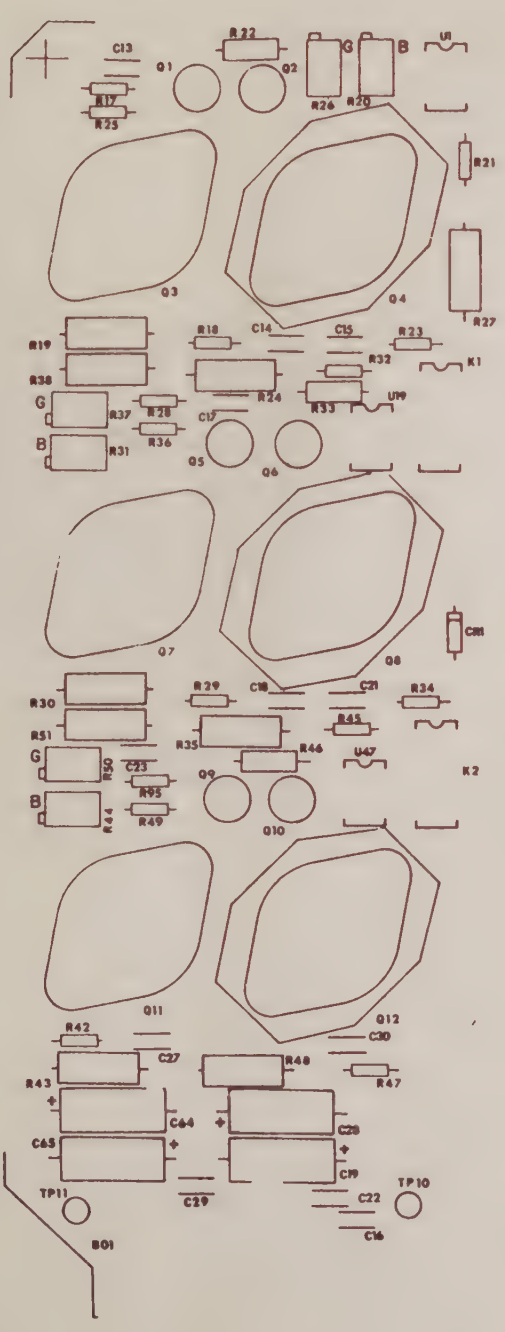
20329-503-000 0

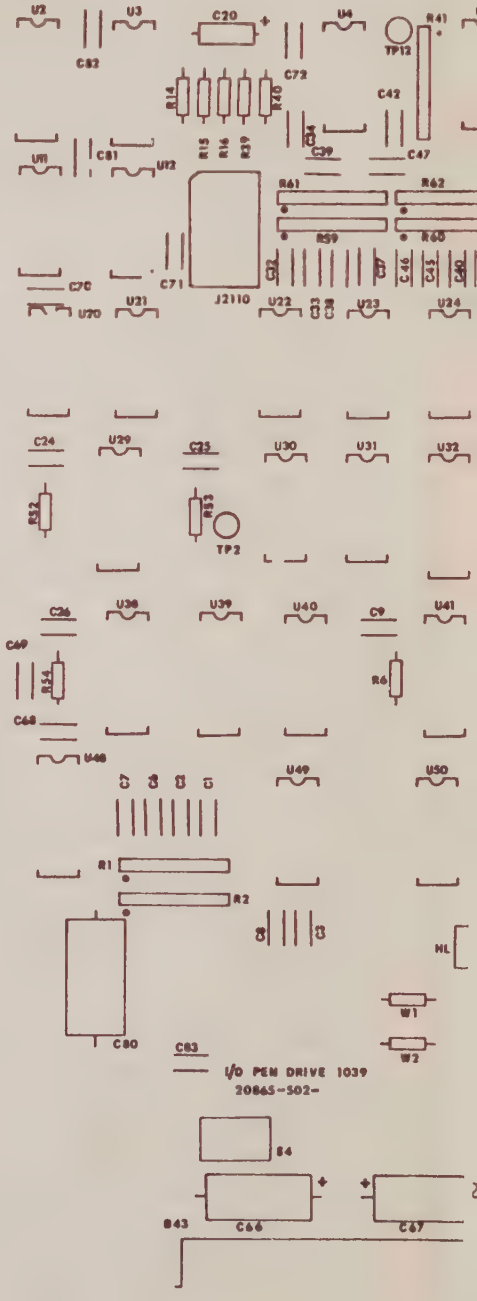

FRONT SENSOR
LAMP
J7020
20617-401-000
P7010
J7010
20581-401-000
REAR SENSOR
ENCODER AMP 20869-502
J6010
P6010
20581-401-000
J60020
P60020
J6030
P6030
I/O
J0200
J6110
J6120
J6210
J6220
20615-401-000
P7030
J7030
20616-401-000
P6040
J7040
J2102
J2202
FM
J6310
J6320
20616-401-000
20868-502-000
RM
J6410
J6420
20616-401-000
E002
E001
E003
A.C. INPUT FIL
J0100
J0140
P1040
J0130
P1080
POWER SU
20191-40


REVISIONS
1 ON FID REVISED P & J DESIGNATIONS
2 ON FID ADDED CABLE 20366-401-852
3 ON FID & IN G/N'S ADDED NOTE # 1.
EFFECTIVITY: F 11-28
CONTROL PANEL
P4010 J4010
J4020 P4020
E005
E004
20583-401
J8020
+Y LIMIT
J8010
-Y LIMIT
20579-401-011
P2020 J2020
J2101
REF 20863-302 OR 20863-502
J2201
REF 20864-302
CARRIAGE PEN
J5010 P5010
PEN
20578-401
P2010 J1010
P3020 J3020
PLOT TIME
SCALE ADJUST
ORC. DISPLAY
P3025 J1025
J3030 P3030
J1031
20366-401-852
TO J2110 ON 20863-302 OR 20864-502 WHEN OPC OPTION IS INSTALLED.
20610-401-0000
P3010
O.P.C. MODEL 906
P3005 J3005
20628-401-021
J3007 P3007
OPC POWER SUPPLY 20189-402-000
J3003 P3003
PPLY
J1070 P1070
TRANSFORMER 10179-403-000
20627-401
M
FAN
20619-401-000
J1060 P1060
J3061
PRESSURE FAN
446990-4
I.C. NO.
20334-503-000
ROUTING DIAGRAM
PART OR IDENTIFYING NO.
NOMENCLATURE OR DESCRIPTION
MATERIAL SIZE, DESCRIPTION & SPECIFICATION
ZONE
LIST OF MATERIAL OR PARTS LIST
DIMENSIONS ARE IN INCHES
TOLERANCES ON
DECIMALS
ANGLES
DRAWN
CHECK
APPD
APPD
APPD
MODEL NO. 1037-1039
FINISH
NEXT ASSY
HEAT TREAT
FIRST USAGE
CALIFORNIA COMPUTER PRODUCTS INC.
CABLE ROUTING DIAGRAM 1037-1039
SCALE NONE
SIZE F
20334-503-000
SHEET
INSTALLED WITH O.P.C. OPTION
R TO 20337-303 CABLE DIAGRAM 906/OPC.
20334-503-000

REDUCE TO
11.900 ±.005

REDUCE TO
8.350 ±.005





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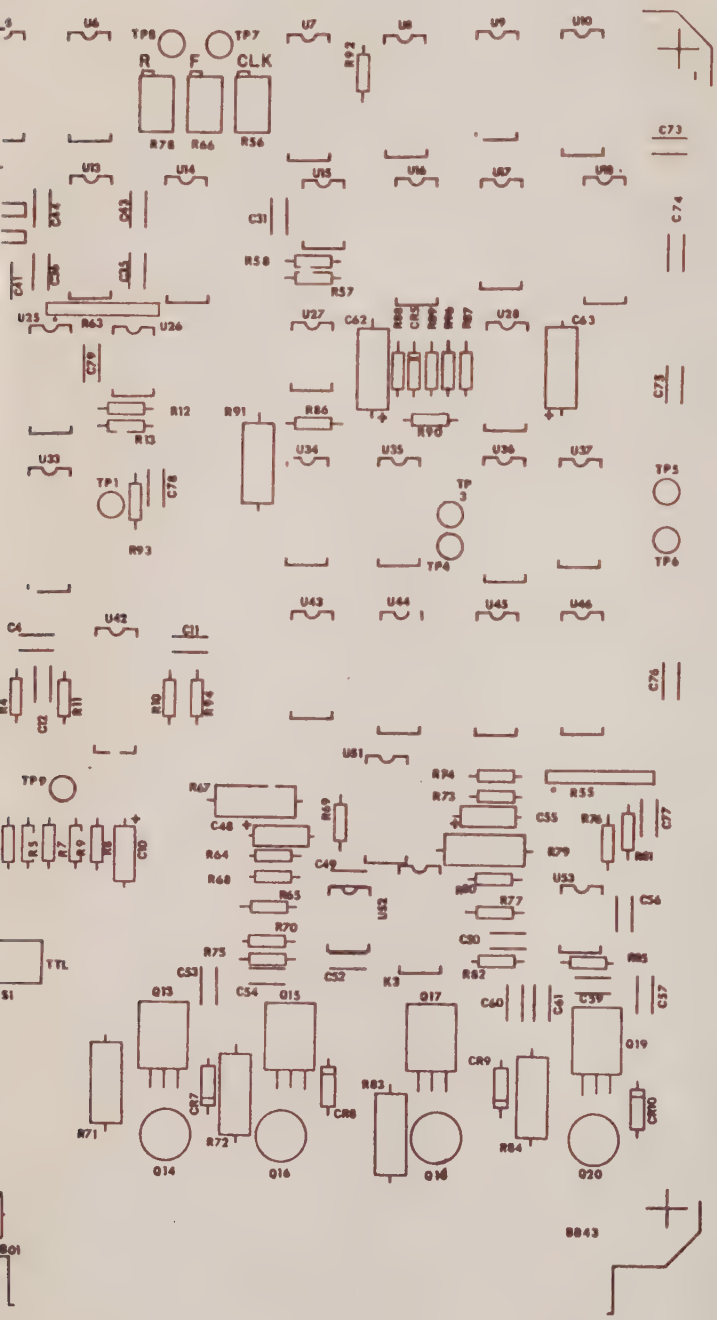


CIRTECH, INC.

12 20 77

DRAWN		4/4/77
CHECK		4/2077
APPD		4/4/77
APPD		

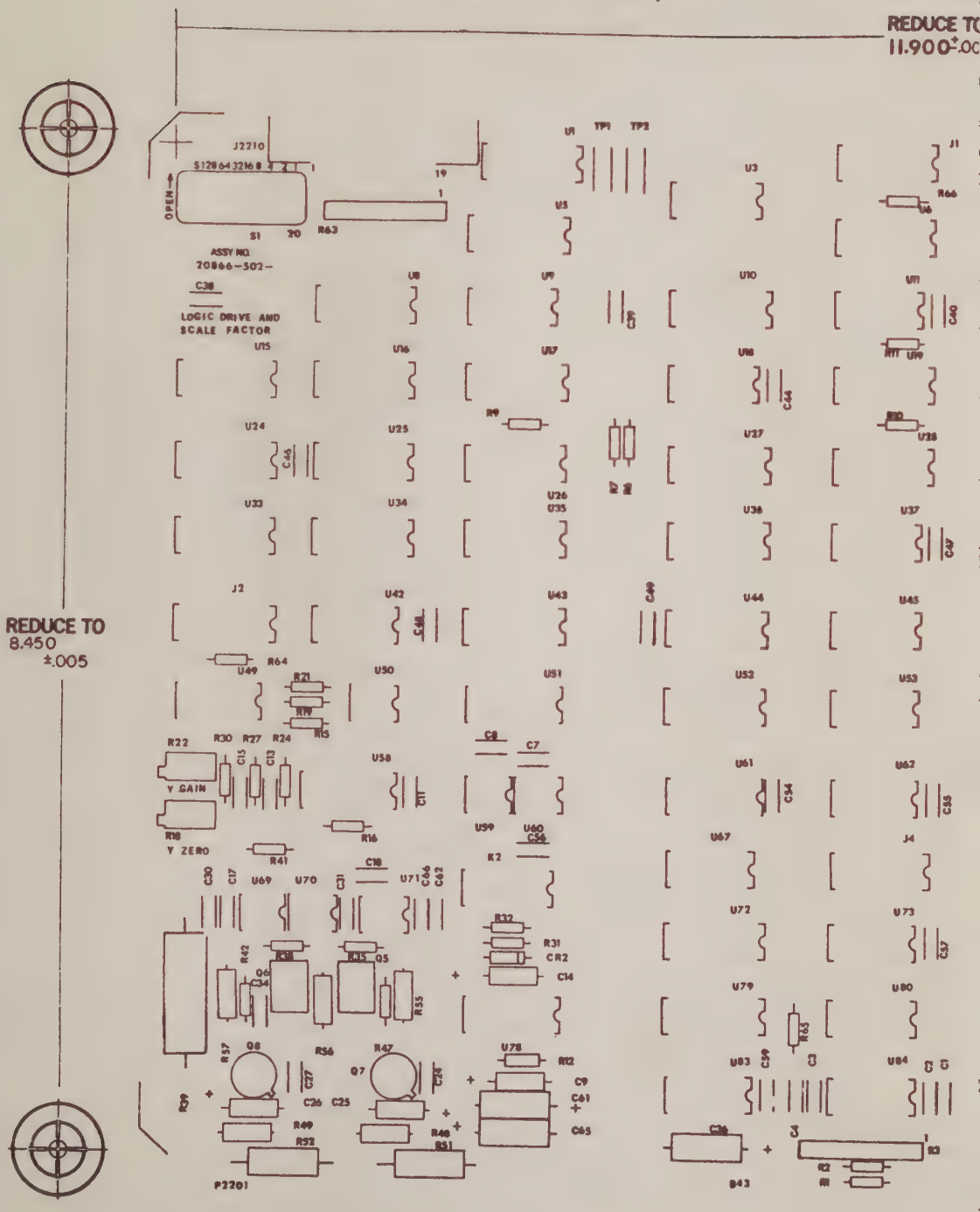
CALIFORNIA COMPUTER PRODUCTS INC.
1270 NORTH KRAEMER BLVD. ANAHEIM, CALIFORNIA
2411 WEST LA PALMA, ANAHEIM, CALIFORNIA

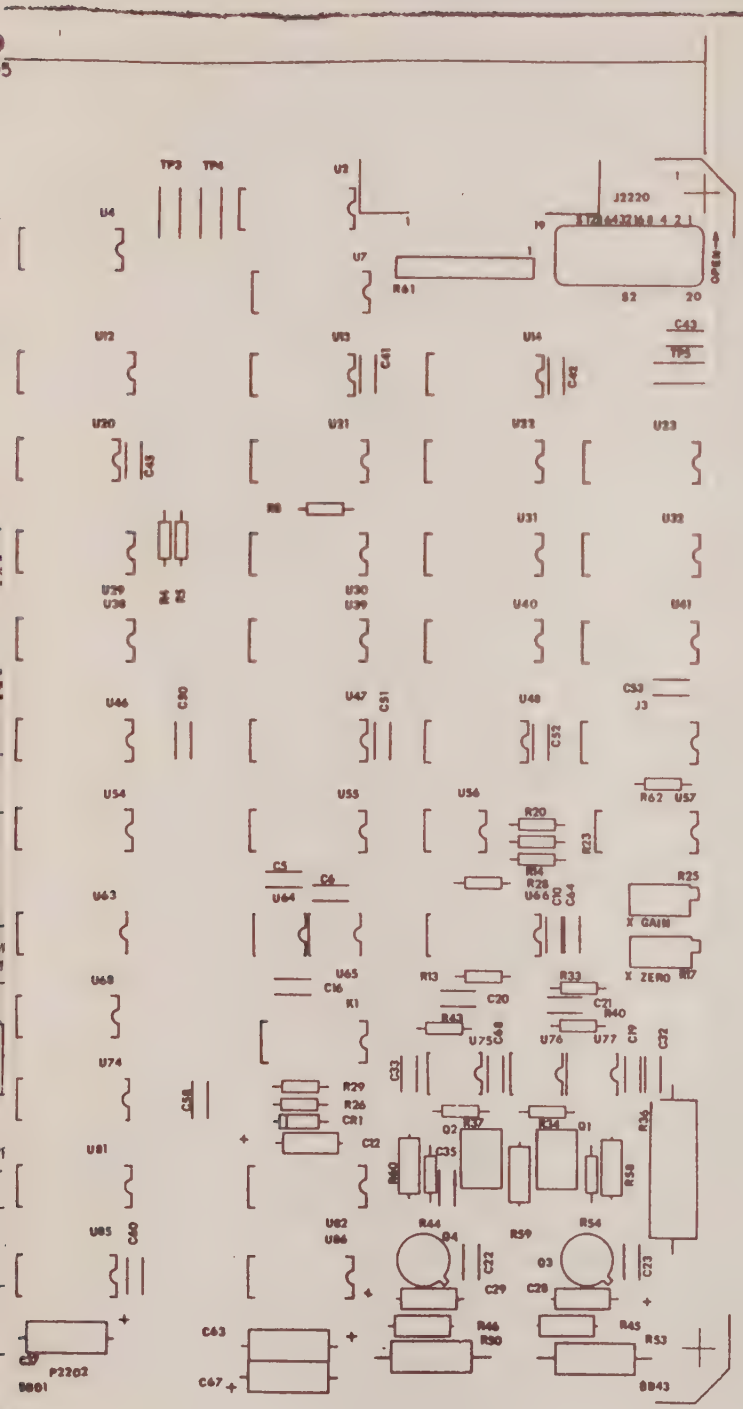
SS-

I/O PEN DRIVE 1039

SCALE	SIZE	
2/1 1/1	F	20865-514-001

SHEET OF


REDUCE TO
11.900±.00
REDUCE TO
8.450
±.005
J2210
S1
OPEN
ASSY NO.
70866-502-
LOGIC DRIVE AND
SCALE FACTOR
Y GAIN
Y ZERO
P2201



REV	DESCRIPTION	DATE APPD
1	(1) PAD NO. 49 ADDED (2) CONNECT P2 TO GROUND (3) NOTE	

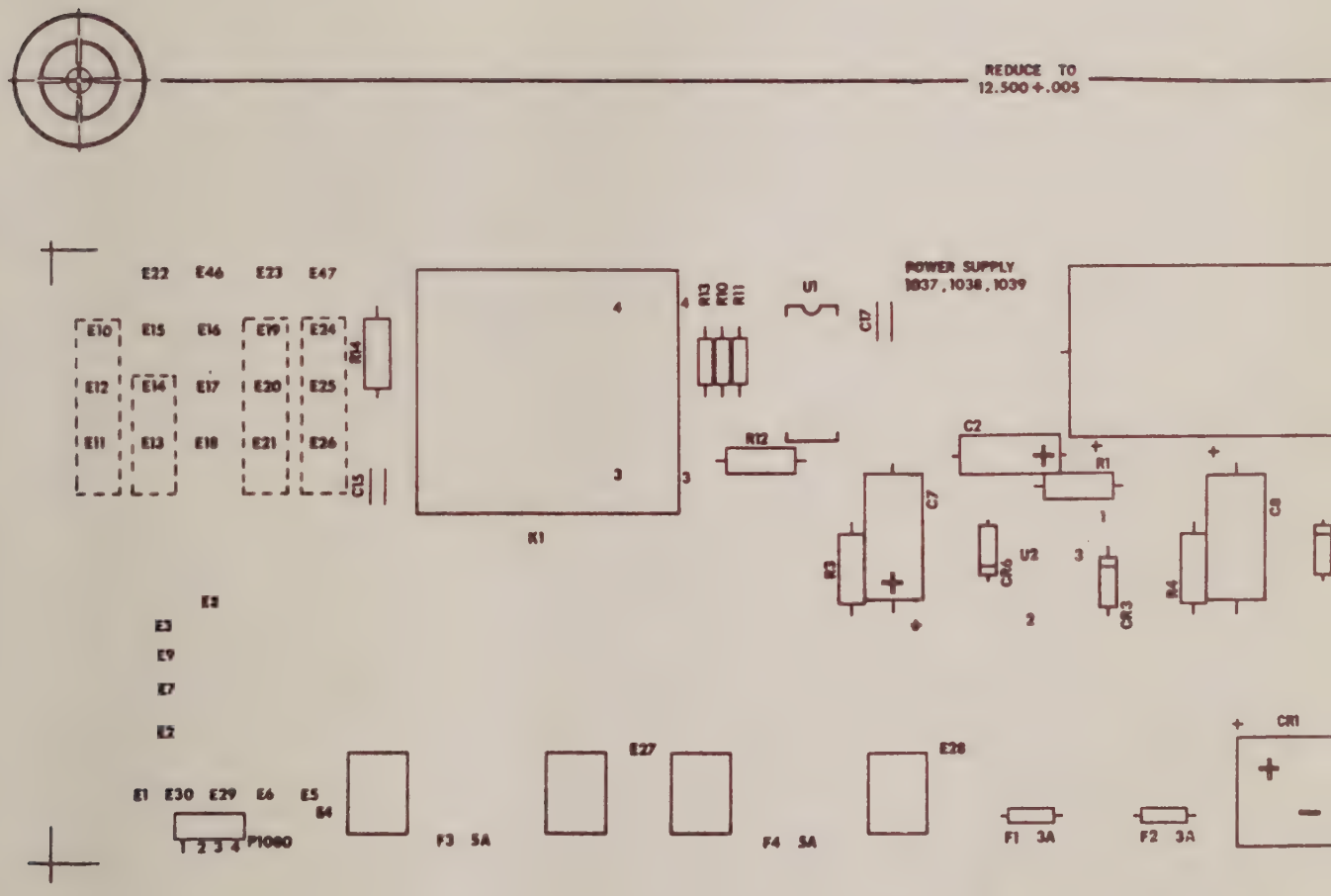
DRAWN	C. D. Gallo	8-25-77
CHECKED	W. Cochran	9-26-77
APPROVED	L. R. Hale	9-26-77

CIRTECH, INC.
11 3 77

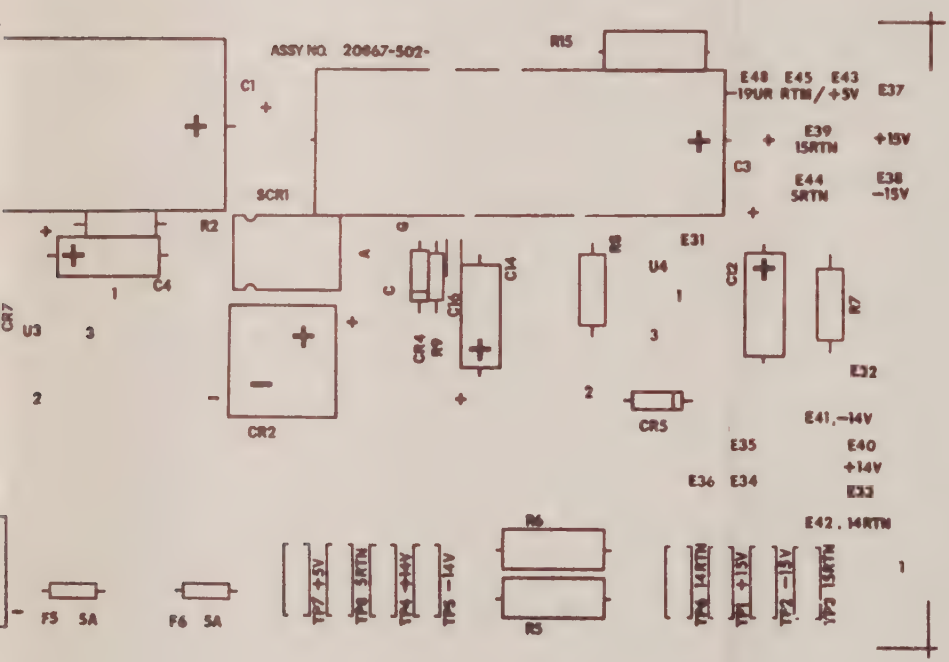
SS
LOGIC DRIVE
AND SCALE FACTOR

SCALE	SIZE	DRAWING NO.	REV
2/1 1/1	F	20866-514-001	

SHEET 01 1


REDUCE TO
12.500 +.005
POWER SUPPLY
1037, 1038, 1039
E22
E46
E23
E47
E10
E15
E16
E19
E24
E12
E14
E17
E20
E25
E11
E13
E18
E21
E26
R14
C15
K1
R13
R10
R11
U1
C17
R12
C2
R1
C7
C8
R2
CR6
U2
CR3
R4
E8
E3
E9
E7
E2
E1
E30
E29
E6
E5
E4
P1080
1 2 3 4
F3 5A
E27
F4 5A
E28
F1 3A
F2 3A
CR1

1	[ ] MAY BE REWORKED [X] CANNOT BE REWORKED [X] NONE	



FRONT SS

DRAWN	R.D. Hall	13 MAY 77
CHECK	W. Gladman	5-18-77
APPD	A. Brown	5-18-77
APPD		

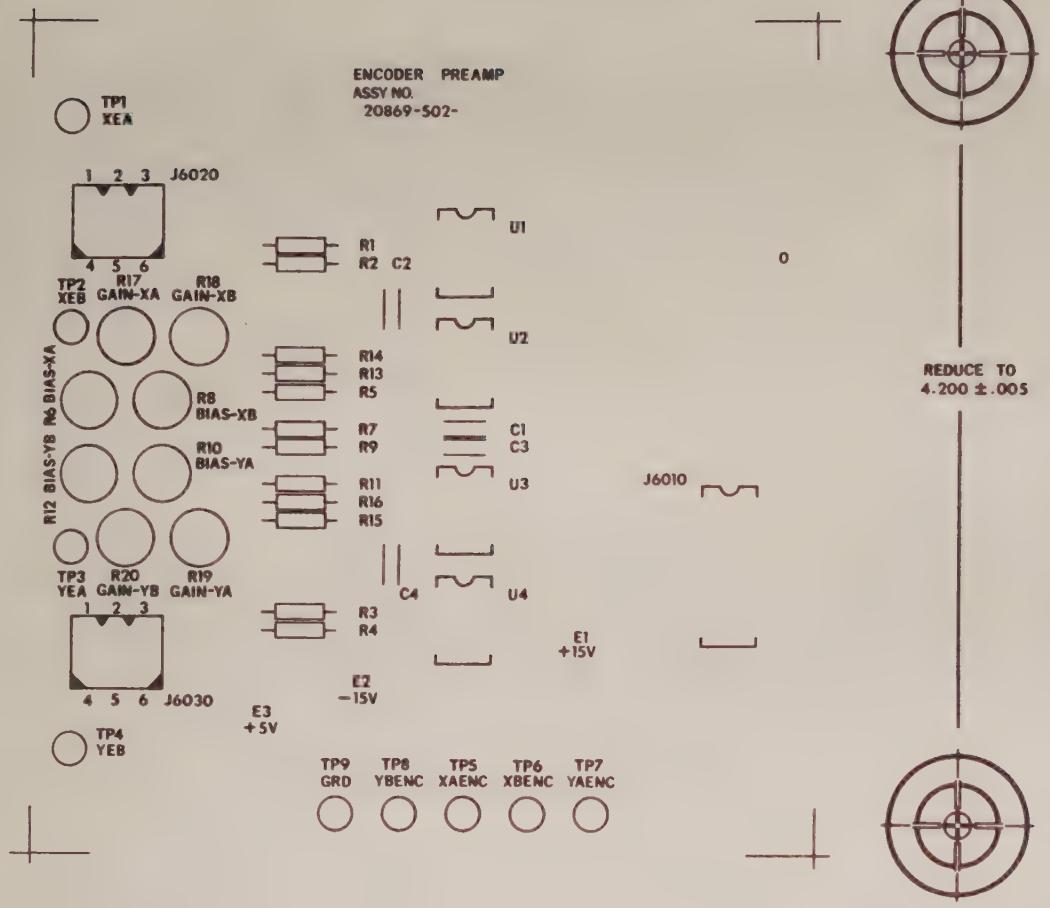
CALIFORNIA COMPUTER PRODUCTS INC.
1270 NORTH KRAEMER BLVD. ANAHEIM, CALIFORNIA 92806
2411 WEST LA PALMA, ANAHEIM, CALIFORNIA 92801

SS-
POWER SUPPLY
1037, 1038, 1039

SCALE	SIZE	
1/1 1/1	D	20867-514-001

SHEET 1 OF 1

CIRTECH, INC.
11 3 77



REDUCE TO
4.200 ±.005

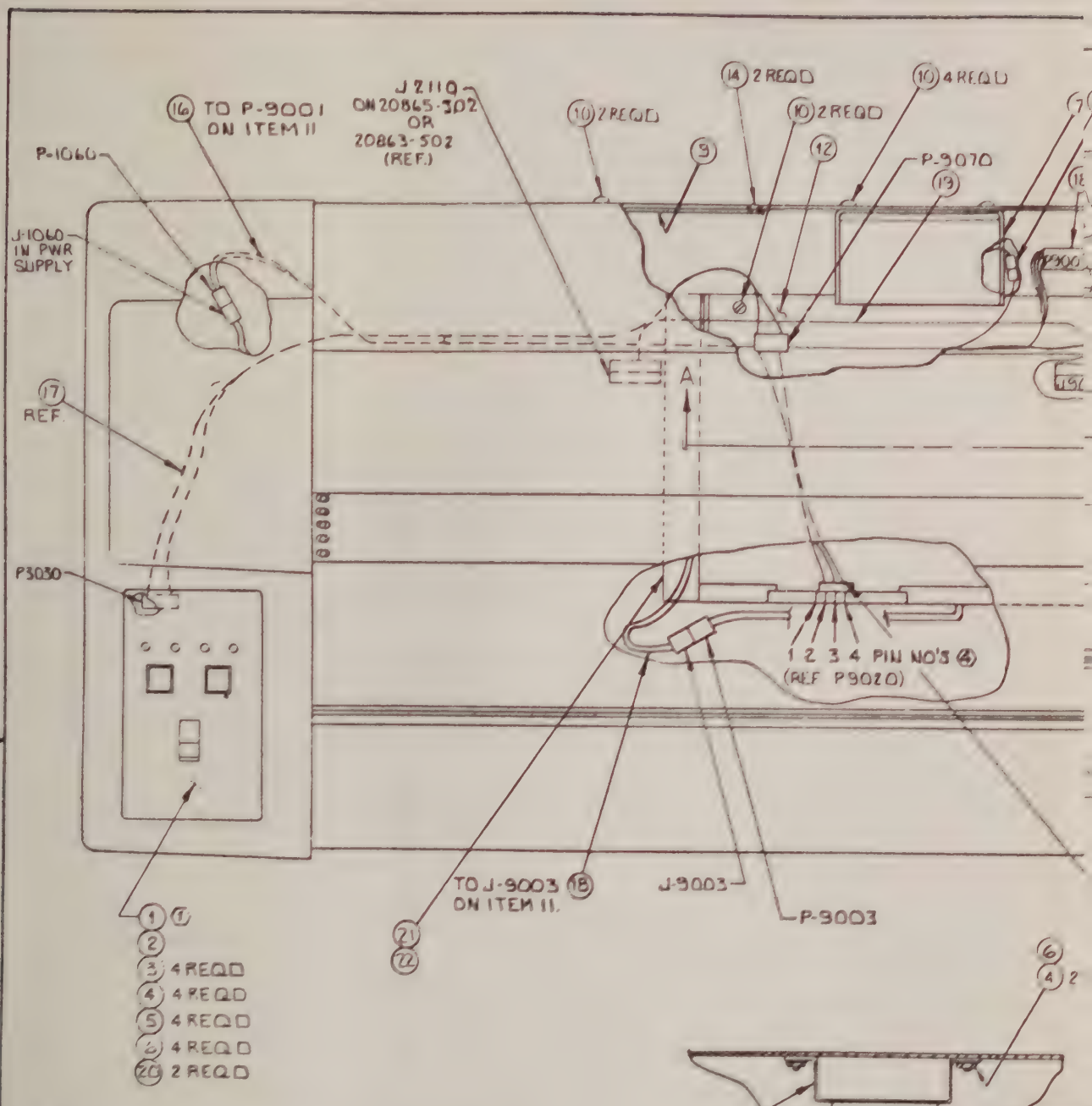
FRONT SS

CIRTECH, INC.
7 21 77
5520 E. LA PALMA AVE. •
ANAHEIM CALIF. 92806 • (714) 993-2300

CALIFORNIA CIRCUIT PRODUCTS, INC.
☐ 1270 NORTH KRAEMER BLVD. ANAHEIM, CALIFORNIA 92806
☒ 2411 WEST LA PALMA, ANAHEIM, CALIFORNIA 92801

SS–
ENCODER PREAMP

SCALE	SIZE	
1/1	C	20869-514-001



(5) 6. AS REQUIRED PER ORDER ENTRY.

5. REFER TO CABLE ROUTING DIAGRAM 20337-503-000, FOR INPUT CABLE REQUIREMENT PER ORDER ENTRY.

(4) 4. ITEM 17 WIRE LOCATION.
GROUND ON PIN # 4
RESET ON PIN # 3
TEST ON PIN # 2

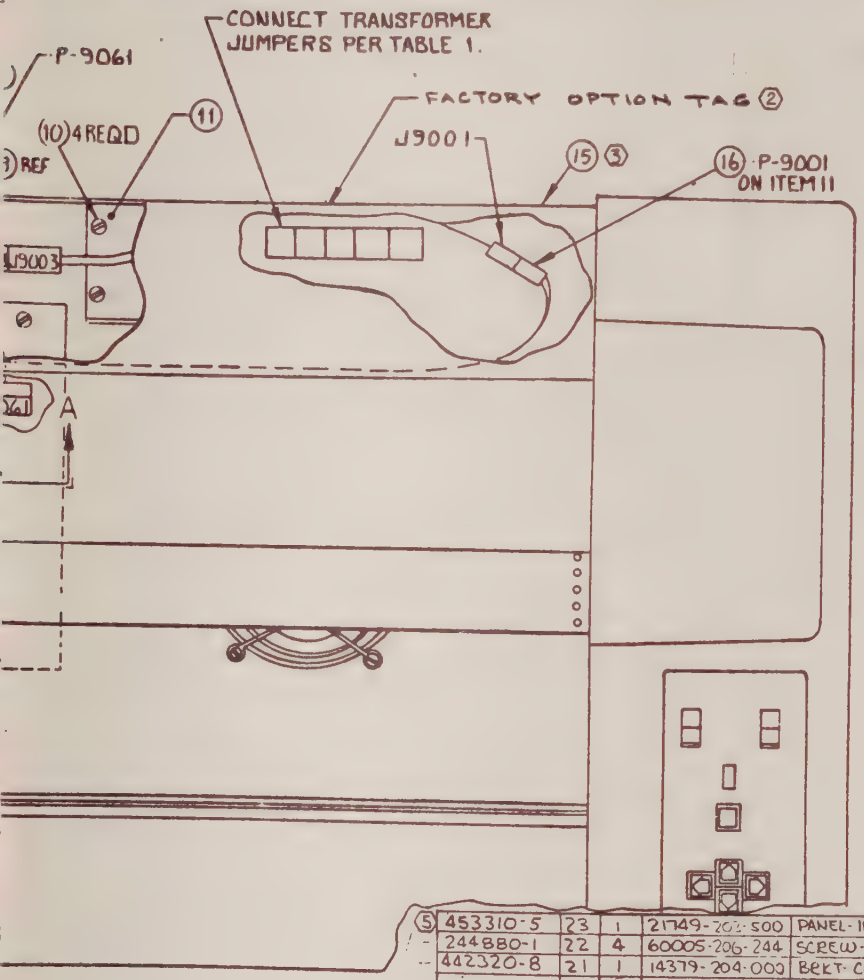
(3) 3. TYPEWRITER IMPRESSION STAMP WITH PART NO 20388-801-000 REV #___ DESCRIPTION. MOD-KIT, DPC DATE INCORPORATED _____ (FIELD INCORPORATION ONLY).

(2) 2 TYPEWRITER IMPRESSION STAMP WITH PART REV # ___ DESCRIPTION: MOD KIT, DPC A0104-001 (FACTORY OPTION ONLY)

(1) 1. REMOVE L.H. PANEL 21721-203-000
INSTALL NEW L.H. PANEL 21762-2
AFTER ASSEMBLY USING EXISTING H

NOTES: UNLESS OTHERWISE SPECIFIE

NOTES CONT



REV	ZONE	DESCRIPTION	DATE & APPROVAL
0			
1		P/D. ADDED CABLE ROUTING AND CONNECTOR DESIGNATIONS. P/L: ADDED 20619-401, 20610-401, 20628-401, 20366-401-852, [illegible] EFFECTIVITY B 10-31-77	10-31-77
2		1. IN I/M 10116-301-001 WAS 30006-301-000 EFFECTIVITY: F 2-20-78	ECR 5646 2-23-78
2		1. IN I/M ADDED 14379-204-000 REQD, WAS 60005-206-244 EFF F 2-13 2. IN GIN'S ADDED NOTE #6	ECR 5684 3-8-78 J JESSE
3		1. IN I/M ADDED 21749-203-500. 2 IN GIN'S ADDED NOTE #6 3. IN I/M DELETED 10120-304-001 BUTTON EFFECTIVITY: F 2-6-78	ECR 5714 3-8-78 J JESSE

15772 10120 10116 REVISIONS

TABLE 1		
INPUT	JUMPER	REMARKS
100 V	1-2, 5-6	VOLTAGES TO CONFORM WITH 20400-801-000
120 V	2-3, 4-5	
200 V	1-6	
220 V	1-4	
240 V	3-4	

ITEM NO	REQD	PART OR IDENTIFYING NO.	NOMENCLATURE OR DESCRIPTION	MATERIAL SIZE, DESCRIPTION & SPECIFICATION	ZONE
5	1	453310-5	21749-203-500 PANEL-INPUT SIG	RS232 FOR OPC	
	4	244880-1	60005-206-244 SCREW-FLAT HD	6-32 X 3/16	
	1	442320-8	14379-204-000 BRKT-CHANNEL		
	20				
	1	439540-6	20366-401-852 CABLE-TC INTERCONN		
	1	446750-2	20628-401-021 CABLE-DC EXT.		
	1	444680-3	20610-401-000 CABLE-OPC DISPLAY		
	1	444860-1	20619-401-000 CABLE-OPC POWER		
	1	172680-1	11739-204-000 PLATE, MODIFICATION		
	2	171360-1	60005-206-247 SCREW-FLAT	H.D. 6-32 X .38 LG.	
	1	451180-4	10116-301-001 FAN-SPRITE		
	1	[illegible]	[illegible]		
	1	441090-8	20389-402-[illegible] PWR SUP ASSY		
	10	029620-2	60010-206-247 SCREW-PAN HD	6-32 X 3/8 LG.	
	1	442260-6	21749-203-[illegible] PANEL-SIG INPUT	RS 232 INPUT	
	1	[illegible] 250-7	21746-203-000 CHASSIS-FAN MTG		
	1	[illegible] 240-8	21747-203-000 BAFFLE-AIR		
	10	030070-7	74007-206-111 L'WASHER-SPLIT	NO. 6	
	10	[illegible] 750-3	74002-206-111 WASHER-FLAT	NO. 6	
	10	[illegible] 590-1	50001-206-012 NUT-HEX	6-32	
	2	444090-5	72016-206-021 SPACER	6-32 X 5/8 LG	
	1	[illegible] 230-9	20860-502-000 PCB ASSY	OPC	
	1	[illegible] 232-[illegible]	21762-203-000 PANEL-CONTROL	L.H.	
	1	442210-1	20388-801-000 MOD KIT-OPC		

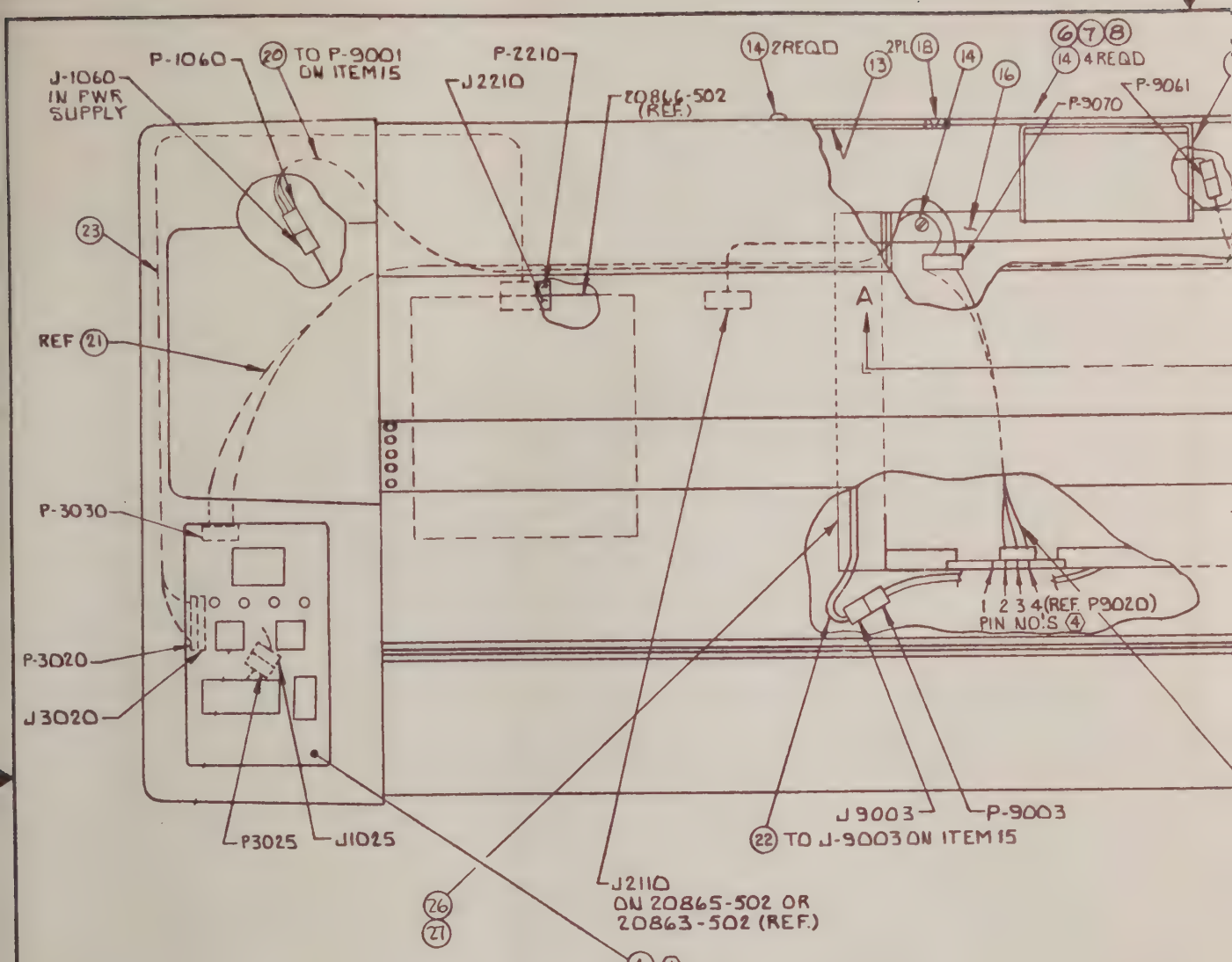
LIST OF MATERIAL OR PARTS LIST

DIMENSIONS ARE IN INCHES TOLERANCES ON DECIMALS XX ± .03 XXX ± .010 ANGLES ± 0° 30'	DRAWN	[illegible]	9/24/77
	CHECK		
	APPD	[illegible]	9-25-77
UNLESS OTHERWISE SPECIFIED	APPD		
MODEL NO. 1037-1039	FINISH		
NEXT ASSY	HEAT TREAT		
FIRST USAGE			

CALIFORNIA COMPUTER PRODUCTS INC.
1270 NORTH KRAEMER BLVD. ANAHEIM, CALIFORNIA 92805
2411 WEST LA PALMA, ANAHEIM, CALIFORNIA 92801

MOD. KIT — OPC

SCALE. NONE. SIZE D 20388 801-000 SHEET



6 7 AS REQUIRED PER ORDER ENTRY.

6. REFER TO CABLE ROUTING DIAGRAM 20337-503-000 FOR INPUT CABLE REQUIREMENT PER ORDER ENTRY.

5 5. SELECT RUN TIME METER PER SALES ORDER ENTRY. 1 REQD

4 4. ITEM 21 WIRE LOCATION
GROUND ON PIN #4
RESET ON PIN #3
TEST ON PIN #2

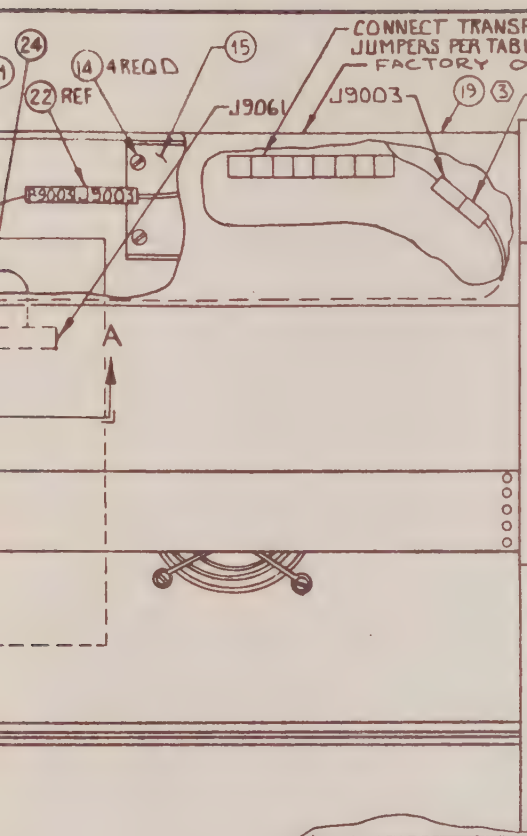
3 3. TYPEWRITER IMPRESSION STAMP WITH PART NO. 20389-801-000 REV. # ___ DESCRIPTION: MOD.-KIT, OPC + SCALE FACTOR DATE INCORPORATED ____ (FIELD INCORPORATION ONLY).

NOTES: CONT.

2 2. TYPEWRITER IMPRESSION STAMP WITH PART NO DESCRIPTION MOD-KIT, OPC+ SCALE FACTOR PE (FACTORY OPTION ONLY)

1 1. REMOVE L.H. CONTROL PANEL 21721-20 AND INSTALL NEW L.H. CONTROL PANE USING EXSISTING POWER AND ASSEMBL OUT ON F/D, USING EXISTING MOUNTI

NOTES: UNLESS OTHERWISE SPECIFIED



REV	ZONE	DESCRIPTION	DATE & APPROVAL
0			
1		FID: ADDED CABLE ROUTING & CONNECTOR DESIGNATIONS P/L: ADDED 20619-401, 20610-401, 20628-401, 20578-401, 20366-401-852, 11620-304-001 FGN 4,5 EFFECTIVITY: B 10-31-77	ECR 5468 10-31-77
2		1. IN L/M 10116 301-001 WAS 30006-301-000 EFFECTIVITY: F 2-20-78	ECR 5646 1-23-78
2		1. IN LIM & ON FID ADDED 14379-204-000 1 REQ D, & 60005-206-249 4 REQ'D EFFECTIVITY: F 2-13	ECR 5684 3-8-78 J JESSE
3		1. IN LIM ADDED 21749-203-500 2. IN GINS ADDED NOTE # 7 3. IN LIM DELETED 11620-304-001 BUTTON EFFECTIVITY: F 3-6-78	ECR 5714 3-8-78 J JESSE

TABLE 1		
INPUT	JUMPER	REMARKS
100V	1-2, 5-6	VOLTAGES TO CONFORM WITH 20400-801-000
120V	2-3, 4-5	
200V	1-6	
220V	1-4	
240V	3-4	

LC NO.	ITEM NO	REQD	PART OR IDENTIFYING NO.	NOMENCLATURE OR DESCRIPTION	MATERIAL SIZE, DESCRIPTION & SPECIFICATION		ZONE
453310-5	28		21749-203-500	PANEL-INPUT SIG.	RS232 FOR OPC		
244880-1	27	4	60005-206-244	SCREW-FLAT HD	6-32 X 3/16		
442320-8	26	1	14379-204-000	BRKT-CHANNEL			
	25						
439540-6	24	1	20366-401-852	CABLE-LC INTERCONN.			
445860-0	23	1	20578-401-000	CABLE-SCALE FACTOR			
446750-2	22	1	20628-401-021	CABLE-D.C. EXT.			
444680-3	21	1	20610-401-000	CABLE-OPC DISPLAY			
444860-1	20	1	20619-401-000	CABLE-OPC POWER			
172680-1	19	1	11139-204-000	PLATE-MODIFICATION			
171360-1	18	2	60005-206-247	SCREW-FLAT HEAD	6-32 X 3/8 LONG		
451180-4	17	1	10116-301-001	FAN-SPRITE			
441050-2	16	1	10528-310-000	OPC ELECT ASSY	REF SEP P/L		
441090-8	15	1	20189-402-000	POWER SUPPLY ASSY	REF SEP P/L		
029620-2	14	14	60010-206-247	SCREW-PAN HD	6-32 X 3/8		
442260-6	13	1	21749-203-000	PANEL-SIGNAL INPUT	RS232 INPUT		
442250-7	12	1	21746-203-000	CHASSIS-FAN MTG			
442240-8	11	1	21747-203-000	BAFFLE-AIR COOLING			
⑤ 409740-8	10	*	10503-310-021	ASSY-R.T.M.	50 HZ REF	*SALES ORDER-HZ	
⑤ 409730-9	9	*	10503-310-011	ASSY-R.T.M.	60 HZ REF	*SALES ORDER-HZ	
030070-7	8	24	74007-206-111	LWASHER-SPLIT	NO. 6		
163750-3	7	22	74002-206-111	WASHERS-FLAT	NO. 6		
050590-9	6	12	50001-206-012	NUT-HEX	6-32		
440170-9	5	2	72021-206-043	SPACER-THREADED	6-32 X 7/16 LG		
444090-5	4	4	72016-206-021	SPACER-THREADED	6-32 X 5/8 LG		
442230-9	3	1	20860-502-000	PCB ASSY-OPC			
440150-1	2	1	20842-502-000	PCB ASSY-SCALE FACT	REF SEP P/L		
442280-4	1	1	21760-203-000	LH PANEL CONTROL			
442270-5	ITEM NO	REQD	20389-801-000	OPC + SCALE FACT-KIT			

LIST OF MATERIAL OR PARTS LIST

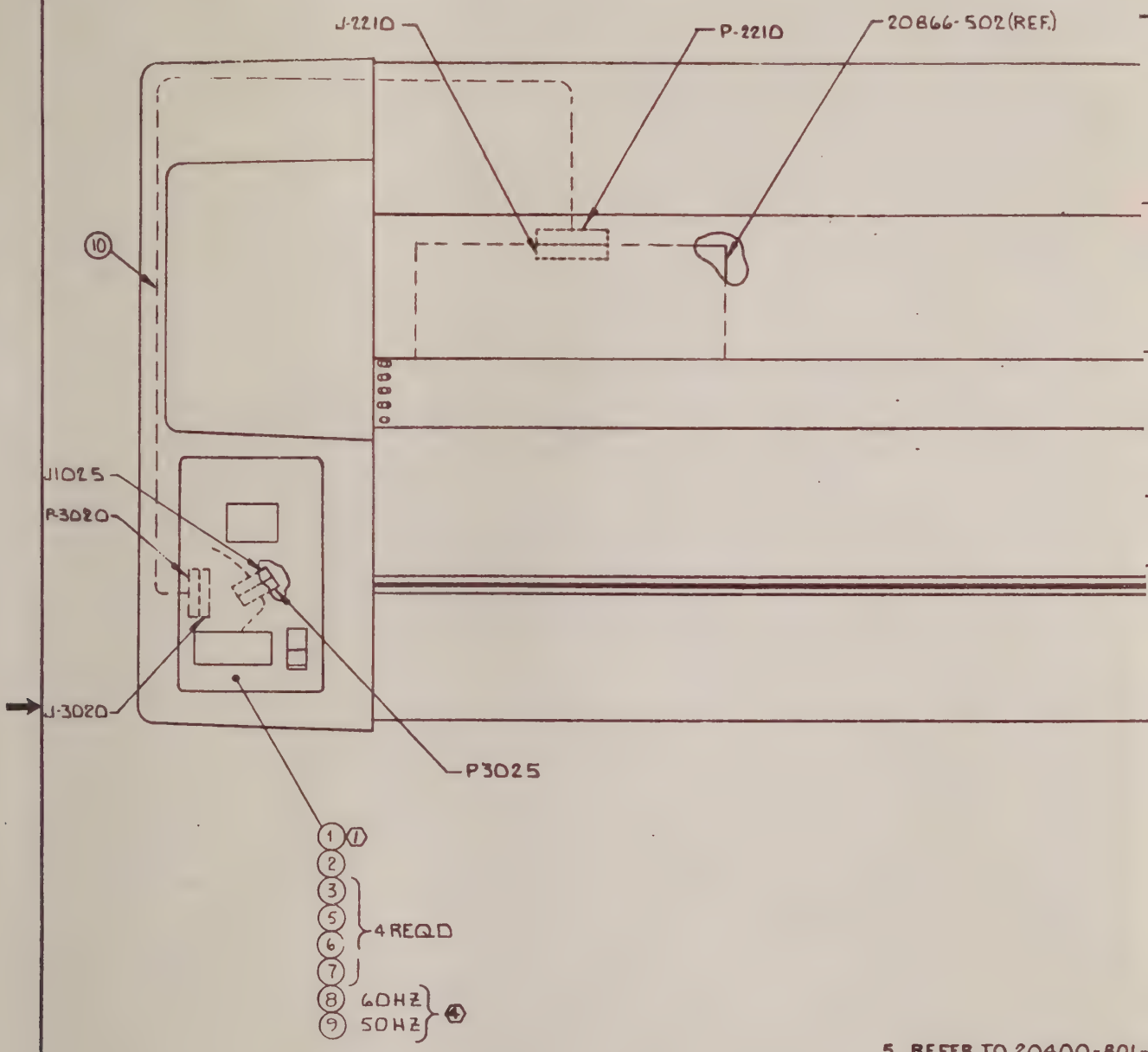
DIMENSIONS ARE IN INCHES TOLERANCES ON DECIMALS .XX ± .03 .XXX ± .010 ANGLES ± 0° 30' UNLESS OTHERWISE SPECIFIED	DRAWN JESSE	7-22-77	CALIFORNIA COMPUTER PRODUCTS INC. 1270 NORTH KRAEMER BLVD. ANAHEIM, CALIFORNIA 92806 2411 WEST LA PALMA, ANAHEIM, CALIFORNIA 92801
	CHECK		
	APPD	7-23-77	MOD KIT — OPC + SCALE FACTOR
	APPD		
	APPD		
MODEL NO. 1038-1039	FINISH		SCALE NONE
NEXT ASSY	HEAT TREAT		SIZE D 20389-801-000
FIRST USAGE			SHEET

20389-801-000 REV. #
CCP SPEC A0104-001

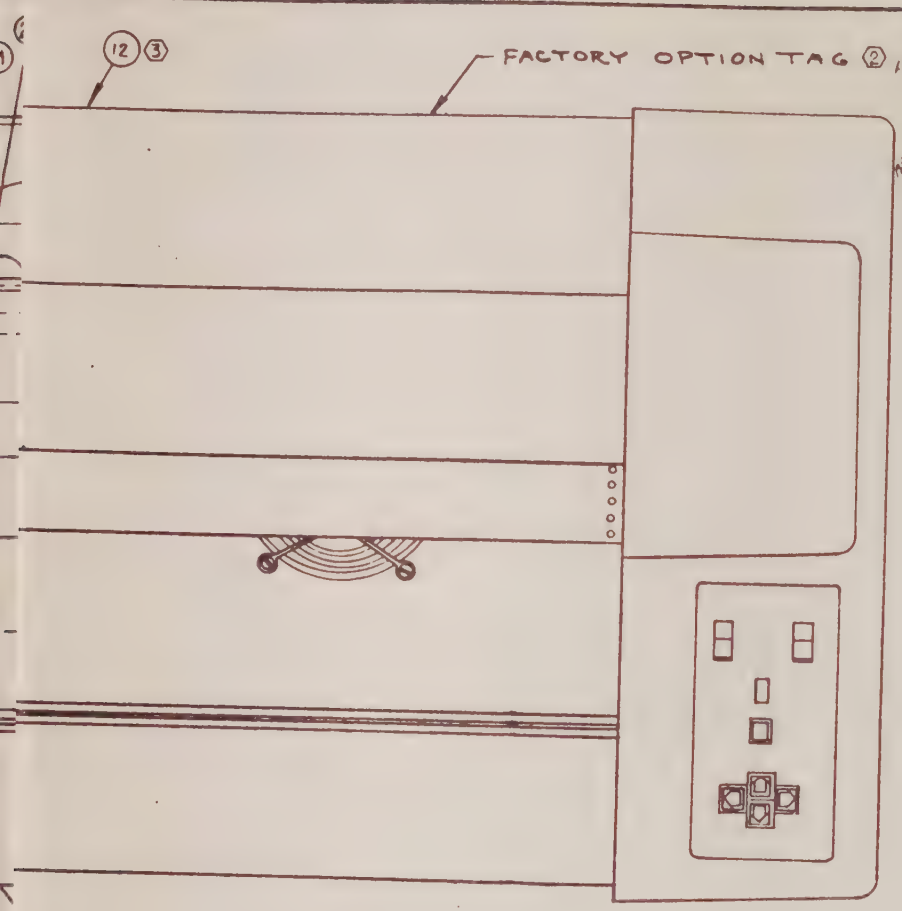
-000
21760-203-000
G ITEMS CALLED
G HARDWARE.

REQ'D

20389-801-000 | 3



5. REFER TO 20400-801-
FOR CONFORMANCE TO VD
④4. SELECT RUN TIME METER
ORDER ENTRY. 1 REQ'D.
③3. TYPEWRITER IMPRESSION
PART NO. 20390-801-0
DESCRIPTION: MOD-K
DATE INCORPORATED ____
②2. TYPEWRITER IMPRESSION
PART NO. 20390-801-0
DESCRIPTION: MOD KIT,
PER CCP SPEC A0104-001 (FA
① L REMOVE L.H PANEL 21721-203-
INSTALL NEW L.H PANEL 217
AFTER ASSEMBLY. USING EXIS
NOTE: UNLESS OTHERWISE S



15772 16120

REVISIONS			
REV	ZONE	DESCRIPTION	DATE & APPROV
0			
1		F/D: ADDED CABLE ROUTING AND CONNECTOR DESIGNATIONS. P/L: ADDED 20578-401. G/N: ADDED MISC. CABLES. EFFECTIVITY B 10-31-77	10-31-77

ITEM NO	REQD	PART OR IDENTIFYING NO.	NOMENCLATURE OR DESCRIPTION	MATERIAL SIZE, DESCRIPTION & SPECIFICATION			ZONE
172680-1	12	1	11139-204-000	PLATE, MODIFICATION			
	11						
445860-0	10	1	20578-401-000	CABLE SCALE FACTOR			
(4) 409760-8	9	*	10503-310-021	ASSY- R.T.M.	50 HZ REF	*SALES ORDER - HZ	
(4) 409730-9	8	*	10503-310-011	ASSY- R.T.M.	60 HZ REF	*SALES ORDER - HZ	
029620-2	7	2	60010-206-247	SCREW - PAN HD	6-32 X 3/8		
030070-7	6	6	74007-206-111	LWASHER - SPLIT	NO 6		
163750-3	5	6	74002-206-111	WASHER - FLAT	NO 6		
050590-9	4	6	50001-206-012	NUT-HEX	6-32		
440170-9	3	4	72021-206-043	SPACER - THREADED	6-32x1 7/16 LG		
440150-1	2	1	20842-502-000	PCB ASSEMBLY	SCALE FACT		
442300-0	1	1	21717-203-000	LH CONTROL PANEL			
442230-3	ITEM NO	REQD	PART OR IDENTIFYING NO.	NOMENCLATURE OR DESCRIPTION	MATERIAL SIZE, DESCRIPTION & SPECIFICATION		ZONE
IC NO							

LIST OF MATERIAL OR PARTS LIST

DOO
.TAGE OPTIONS.
PER SALES

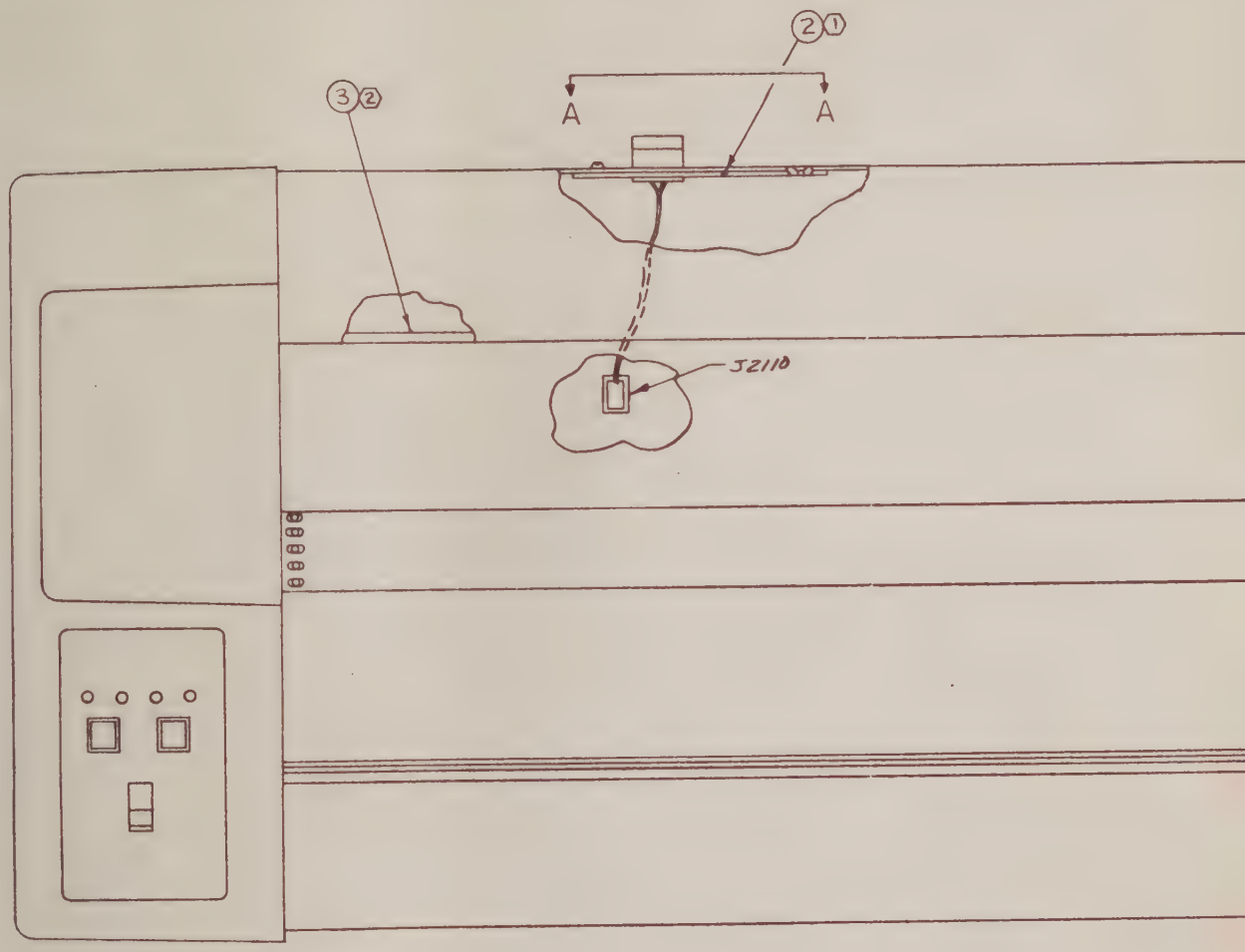
STAMP WITH
O REV. # ____
, SCALE FACTOR
.(FIELD INCORP. ONLY)
STAMP WITH
O REV # ____
SCALE FACTOR
TORY OPTION ONLY).
000 AND
-203-000
NG HARDWARE.
ECIFIED

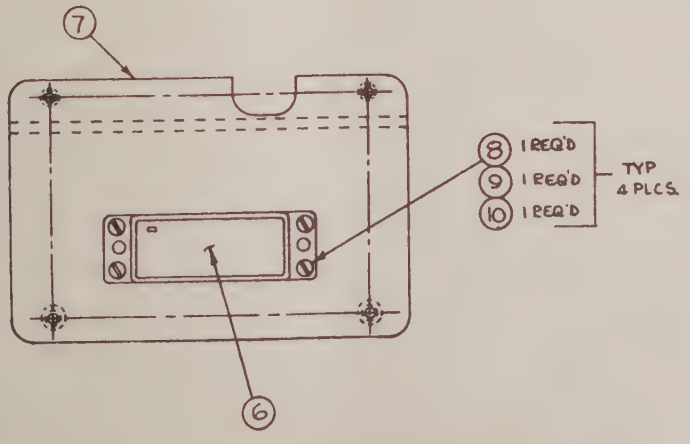
DIMENSIONS ARE IN INCHES TOLERANCES ON DECIMALS .XX ± .03 .XXX ± .010 ANGLES ± 0° 30'	DRAWN	JESSE 7-22-77
	CHECK	
	APPD	7-23-77
UNLESS OTHERWISE SPECIFIED	APPD	
MODEL NO. 1038-1039	FINISH	
NEXT ASSY	HEAT TREAT	
FIRST USAGE		

CALIFORNIA COMPUTER PRODUCTS INC.
1270 NORTH KRAEMER BLVD. ANAHEIM, CALIFORNIA 92805
2411 WEST LA PALMA, ANAHEIM, CALIFORNIA 92801

MOD - KIT
SCALE FACT

SCALE:	SIZE	
NONE	D	20390-801-000
		SHEET

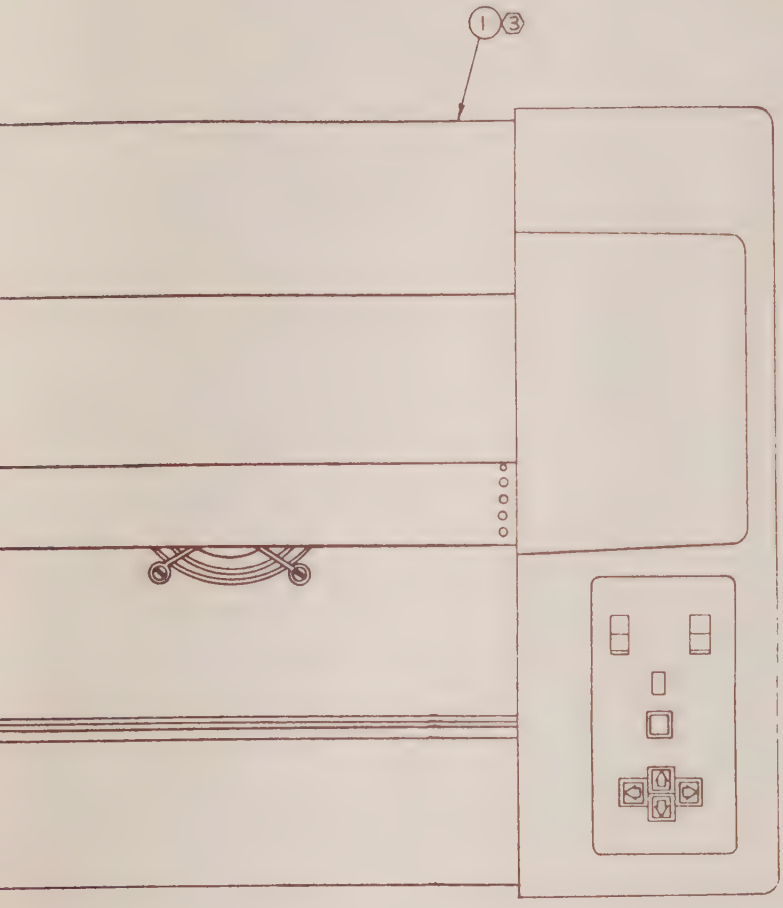




VIEW A-A

4 4. TO BE BAGGED SEPERATLY & SHIPPED WITH PLOTTER.
3 3. TYPEWRITER IMPRESSION STAMP WITH PART NO. 2040
REV. # __ DESCRIPTION: MOD KIT, I/O 936/1039 INTERFA
DATE INCORPORATED_____.
2 2. REMOVE PCB ASSY FROM UPPER SLOT AND REPLACE WITH
1 1. REMOVE EXISTING INPUT PANEL AND INSTALL ITEM 2.
NOTE: UNLESS OTHERWISE SPECIFIED.

REVISIONS			
REV	ZONE	DESCRIPTION	DATE & APPROVAL
0		PRODUCTION RELEASE PART NO. WAS P 20402-801-000 REV. A	



	030060-8	10	4	74007-206-071	WASHER-LOCK	# 4		
	161650-7	9	4	50001-206-008	NUT-HEX	4-40		
	174940-7	8	4	60002-206-167	SCREW-FILLISTERHD	4-40 x 3/8		
	451770-2	7	1	21818-203-000	PANEL			
	444280-2	6	1	20598-401-000	CABLE ASSY			
4	217020-7	5	35	80206-404-001	CONTACT			
4	240780-7	4	1	80203-404-023	HOUSING-RCPT			
	452750-3	3	1	20872-502-000	PCB-INTERFACE			
		2						
	172680-1	1	1	11139-204-000	PLATE-MODIF.			
	452740-4	ITEM NO.	1	20402-801-000	MODKIT I/O			
	I C NO.		REQD	PART OR IDENTIFYING NO.	NOMENCLATURE OR DESCRIPTION	MATERIAL SIZE, DESCRIPTION & SPECIFICATION		ZONE

LIST OF MATERIAL OR PARTS LIST

DIMENSIONS ARE IN INCHES TOLERANCES ON DECIMALS .XX ± .03 .XXX ± .010 ANGLES ± 0° 30' UNLESS OTHERWISE SPECIFIED	DRAWN J. JESSE	1-16-78
	CHECK	
	APPD	1-23-78
	APPD	
	APPD	
MODEL NO. 936/1039	FINISH	
NEXT ASSY	HEAT TREAT	
NEXT USAGE		

CALIFORNIA COMPUTER PRODUCTS INC.
1270 NORTH KRAEMER BLVD. ANAHEIM, CALIFORNIA 92806
2411 WEST LA PALMA, ANAHEIM, CALIFORNIA 92801

MODKIT-I/O INTERFACE, 936/1039

SCALE:	SIZE	
NONE	D	20402-801-000
		SHEET

20402-801-000 0

801-000

M 3.

MAINTENANCE TERM LIST

) HISTORY		
KHZ/	J2102-A29	J2202-A07
HZ	J2102-B27	J2202-B07
K	J2102-A16	J2202-A18
MXM	J2102-B28	J2202-A06
MXP	J2102-B25	J2202-A05
MYM	J2201-A38	J2102-B29
MYP	J2201-A39	J2102-B24
/	J2101-B29	J2102-A24
:/	J2101-B28	J2102-A25
;/	J2101-B30	J2102-A23
AN/	J2101-B31	J2102-A26
AN/	J2102-A26	J2202-B10
RSTSW/	J2102-B05	J2102-B22
KMSW/	J2101-B35	J2102-A21
KPSW/	J2101-B36	J2102-A28
YMSW/	J2101-B37	J2102-A27
YPSW/	J2101-B38	J2102-A22
)S	J2201-B31	J2101-B26

PUS	J2101-B27	J2202-B11
RESET/	J2201-B36	J2102-B21
RST/	J2201-B33	J2102-A05
SELECT	J2201-B37	J2101-B39
XAENC	J2102-B30	J2202-B12
XBENC	J2202-B13	J2102-B31
XINM	J2101-B33	J2202-B05
XINP	J2102-B16	J2202-B06
YAENC	J2201-B29	J2102-A34
YBENC	J2201-B30	J2102-A35
YINM	J2201-B39	J2101-B32
YINP	J2201-B38	J2101-B34
-15V	J2101-B06	J2102-A37
+5V	J2102-A01	J2102-A17
+5V	J2102-A17	J2102-B01
+5V	J2102-B01	J2102-B17
+15V	J2101-B08	J2102-B39
GRD	J2201-A10	J2201-A01
GRD	J2202-A27	J2202-A43
GRD	J2202-A05	J2202-A03
GRD	J2202-A06	J2202-A04

= BUS WIRE
= ETCHED WIRE
= LONE PIN
= ADD
= DELETE

CALCOMP
California Computer Products, Inc.
2411 W. La Palma, Anaheim, CA 92801